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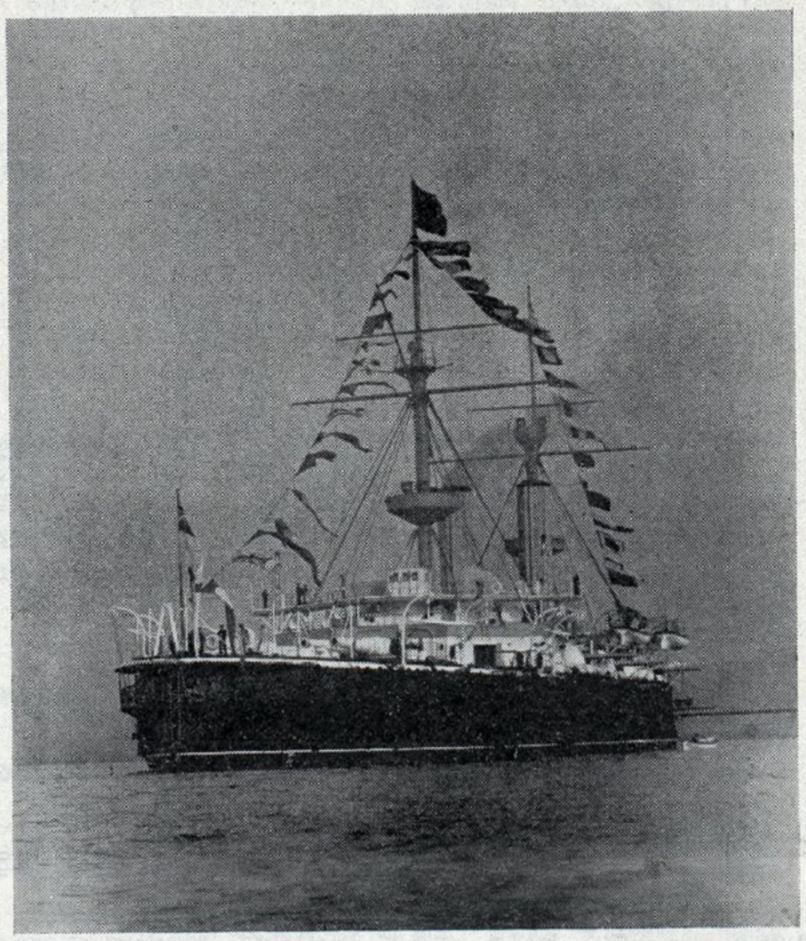
GREAT BRITAIN'S NEW NAVY.

(ILLUSTRATED.)

There has been so much said in the newspapers for some months past about the new navy of the United States that the general public is perhaps not fully aware of the extent to which Great Britain is branching out in the same direction. The present is the second year of the second five-year period of British naval construction under the Naval Defense Act, which is the official term of the "new programme." During the coming year it is proposed to begin four first-class cruisers, four second-class cruisers, two third-class cruisers, and 20 torpedo-boat destroyers. Under this programme there are now in course of construction ten first-class battleships, six first-class cruisers, two third-class cruisers and from 40 to 50 torpedo-boat destroyers. tile fleets, which must be assured of ample defense. England must maintain her naval supremacy or run some very severe risks. At the same time it speaks well for America that her shipyards have attained such an extent and efficiency with so much less aid in the line of government work than the numerous plants on the Clyde, the Tyne, the Wear and elsewhere.

Although no longer one of the largest battleships in the British fleet, the subject of our illustration is one of the newer additions under the naval defense act. H. M. S. Royal Sovereign was built on the Clyde, and was named in honor of one of the flagships of the English fleet at Trafalgar, where Lord Nelson was killed in the moment of victory. The picture is from a photograph taken by Mr. Robert Wood, of Greenoch, brother of Mr. W. J. Wood, the well-known naval architect. The photograph was taken on the 24th of May, the birthday of the Queen, and shows the ship looking her best in honor of her royal godmother. The Royal Sovereign's displacement is about 11,000 tons, while that of the Jupiter, Victorious, Majestic and Magnificent, all launched within a few weeks past, is from 14,000 to 15,000 tons. The dimensions of the Jupiter are: Length between perpendiculars, 390 feet; breadth, extreme, 75 feet 9 inches; depth (moulded) from upper deck, 44 feet 9 inches; mean draft, 27 feet 6 inches; displacement, 14,900 tons. The protection consists of an armor belt of Harveyized steel 9 inches in thickness, which extends for 915 feet. At the ends are transverse armor bulkheads, also of Harveyized armor, which below are 12 inches thick, and above 9 inches. There is also a protective deck, 3 to 4 inches thick, extending from end to end of the ship. The ends of the vessel are protected by an under-water steel deck. There are four heavy guns of 46 tons weight each, and 12 inches caliber. The vessel's freeboard is exceptionally great, the center of the guns being about 27 feet above the water line. The secondary armament consists of 12 6-inch rapid firing guns, all of which are mounted in armor case mates on the main and upper decks. There are also a number of smaller quick-firing and rapid fire guns, machine guns and 5-inch torpedo tubes. The total complement of officers and men will be about 800, all told. The machine space is divided by means of longitudinal and transverse bulkheads into six water-tight compartments, two of which will be used for the engines and four for the boilers. The vessel has space for 1,800 tons of coal. The spaces below the protective deck at the ends of the vessel are largely devoted to the stowage of ammunition and torpedoes, and contain also the steering gear, capstan engine, ventilating and air-compressing engines and the dynamos. Bilge keels reduce the rolling to a minimum. The U. S. Navy, by the way, has been unable to use bilge keels on the larger American cruisers and battleships, by reason of our dry-dock facilities. The engines are of the inverted triple-expansion type, of 12,000 i. h. p., and are expected to give a speed of 17½ knots an hour. The boilers, of which there are eight, are the ordinary single-ended return tube type. The total cost of the vessel will be about $4,500,000. The Jupiter was built by Messrs. J. & G. Thomson, Clydebank, Scotland.



"H. M. S. ROYAL SOVEREIGN."

Besides the expenditures under the provisions of the Naval Defense act, it is proposed to lay out this year £5,393,642 on the construction of ships, and £730,000 on armaments. The total number of officers, seamen, boys, coast-guard, and royal marines provided for in this estimate is 88,850, an increase of 5,450 over the receding year, and a marked contrast to the scant 10,000 men of the United States Navy. Of course it must be remembered that Great Britain, from her geographical position, is much more subject to attack, besides being absolutely dependent for her existence on her mercan-

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The 260-foot steam yacht being built by A. & J. Inglis, Partick, from Watson designs, is for Eugene Higgins, New York.

NEW LEGISLATION PROPOSED.

A member from California will introduce in the House of Representatives a bill requiring all steamship companies to increase the number of experienced sailors in the crews of vessels carrying passengers, and to compel sailors to pass an examination before being eligible to service on passenger steamers. The bill proposes to regulate the number of men in each crew according to the size of the vessel and the number of passengers which she is licensed to carry. The National Seamen's Union is at the back of the movement, and presents the the argument in favor of the enactment of the bill that owing to the cheap and inexperienced class of labor employed, the lives of passengers on large steamers are seriously and needlessly imperiled in cases of emergency.

The Marine Engineers' Beneficial Association has issued a pamphlet which has been sent to every member of Congress, asking that Section 4134 of the revised statutes, to read as follows. The pamphlet shows where the present law is weak, and argues ably for the amendment:

Sec. 4131. Vessels registered pursuant to law shall * * * * continue to be wholly owned by citizens and to be commanded by a citizen of the United States. And all the officers of vessels of the United States shall in all cases be citizens of the United States. The word officer shall include the Chief Engineer and Assistant Engineers on vessels propelled in whole or in part by steam and no person shall be held to be a citizen of the United States who is not either a native-born citizen, or whose naturalization as a citizen shall not have been fully completed. And be it further provided,

That all licenses issued to officers of steam-vessels shall begraded in accordance with the laws governing the Steam-Vessel Inspection Service, and shall not be subject to renewal, except upon written application by the holder of a license, for a license of the next higher grade, which application shall not be granted unless the applicant shall have successfully passed an examination, before a regularly authorized Board of Examiners, as to his qualifications for an officer of the advanced grade, nor until he shall have held his present license at least twelve (12) months prior to his application for advancement; and shall not be subject to suspension or revocation except upon charges duly preferred in writing, made under affidavit to the Supervising Inspector-General, and sustained by him, after a fair and impartial investigation of the charges, at which time the accused shall have the benefit of counsel, or shall be allowed to testify in his own defense, or both, as the accused may elect; and in no case shall the accused be deprived of the use of his license until the charges against him are fully sustained, and he is proven incompetent. And be it further provided,

That any person without the jurisdiction of the laws governing the Steam-Vessel Inspection Service, who holds a license as an officer of vessels of the United States, may have his present issue of license renewed by making oath before a United States Government Consul, or other authorized agent of the United States, that he is the legal possessor of such license, and forwarding said license, together with the aforesaid oath or deposition, to the Board of Local Inspectors who issued said license, who shall return him his license by mail to the address furnished by the applicant for renewal; provided, however, that this clause shall apply to those who are constantly engaged in a service that does not admit of them appearing in person before a Board of Local Inspectors, and whose licenses have lapsed or expired because of this condition. And be it

further provided: That all persons who accept licenses as an Engineer of steam-vessels, shall in case of war or other alarming emergency, be subject to draft into the Navy of theUnited States, to act as Engineer, under such rules as may be made by the Secretary of the Navy, and while so serving in the Naval Service of the United States, they shall be entitled to receive the same pay and emoluments, as officers of the same grade, and performing the same duties in the same service. All laws or parts of laws in conflict with this act are hereby repealed.

OVER TEN MILLION TONS.

The Iron Trade Review, in accordance with its annual custom, has compiled statistics relating to the amounts of ore shipped down by lake, and of its disposition at the lower lake docks. Ashtabula continues in the lead, although the difference between Ashtabula and Cleveland is not so great as usual, owing to the diversion from Ashtabula to Cleveland of a number of cargoes, because of labor trouble at the former port. The tables are as follows. With the exception of the 1892 column, Buffalo figures include Tonawanda.

The total shipments of iron ore by lake for the year amount to 10,233,910 gross tons. Besides the 8,112,228 tons coming to Lake Erie, 1,863,781 tons were forwarded to South Chicago and Bay View and 377,901 tons to the charcoal furnaces on the upper lakes.

There were on Lake Erie docks May 1, 1895, 2,642,980 tons of ore. There are now on the docks 4,415,712 tons. This shows that during the active season of navigation this year the shipments directly from vessels to furnaces reached 6,339,496 gross tons, as against 4,104,948 tons last year.

LAKE SHIPMENTS OF IRON ORE, GROSS TONS.

PORTS.	1895.	1894.	1893.	1892.
Escanaba	2,860,172	1 644,770	2,048,981	4,010 085
Marquette	1 079 485	1,424,856	1,086,934	1,026,338
Ashland	2,350,219	1,738,590	1,117,520	2,223,683
Two Harbors	2,118,156	1,373,253	903,329	1,165,076
Gladstone	109,211	79,108	203 585	115,836
Superior	117 884	1,369,252	80,273	4,245
Duluth	1,598,783	....	440,292	....
Total by lake	10,233,910	7,629,829	5,880,918	8,545,313
Total all rail		189,293	178,037	528 930

IRON ORE RECEIPTS AT LAKE ERIE PORTS, GROSS TONS.

PORTS.	1895.	1894.	1893.	1892.
Toledo	260.730	158,384	145,515	139,987
Sandusky	12,361	23,043	4,464	49,736
Huron	146,442	172 775	137.700	65,000
Lorain	214 219	150,424	165 667	190,400
Cleveland	2,312,370	1,624 573	1,260,716	1,950 224
Fairport	914 617	976 222	792,517	866 611
Ashtabula	2 474 791	1,987,722	1,845,738	2,555,416
Conneaut	244 967	237,905	203 207	1,130
Erie	811,989	624,438	469 299	645,230
Buffalo	719,742	395,339	308,238	197,000
Total	8,112,228	6,350 825	5,333,061	6 660,734

IRON ORE ON LAKE ERIE DOCKS. GROSS TONS.

PORTS.	1895.	1894.	1893.	1892.
Toledo	113,132	96,157	92,911	71,409
Sandusky	34,375	77,004	78,439	87,500
Huron	161,000	147,632	89,000	45 000
Lorain	224,264	223.733	201,632	147,690
Cleveland	1 200,792	1 441,785	1,163,930	1,347,992
Fairport	605,470	660,980	578,033	610 609
Ashtabula	1,301,302	1,439,119	1,296,431	1,312 658
Conneaut	292,460	199,365	91.337	000,000
Erie	335,718	454,233	359,827	401.683
Buffalo	267,199	94,239	119,170	125 000
Total	4,415,712	4,834 247	4,070,710	4,149 451

A DOUBLE-TRACK FREIGHT SHIPMENT.

The Paterson Iron Co., of Paterson, N. J., will ship to Newport News, Va., this week, one of the largest iron stern frames ever made in this country, the principal dimensions being 8 feet 3 inches by 22 feet in the well-hole, the hub measuring 37 inches diameter by 18 inches thick. The weight of the frame entire is about 15 tons.

The steamer for which this stern frame is furnished is building at the yard of the Newport News Ship Building and Dry-Dock Co., for the Cromwell Line. The frame being too large to pass under railroad bridges when standing on edge, the road is compelled to use both its tracks to transport the frame from Paterson to the Jersey City dock, where it will be loaded on a vessel to be carried to Newport News. The train will be run by special engines and crews after heavy train service has ended for the day. The operation of other night trains on that portion of the road will be suspended during the trip.

WORK OF LAKE SHIPYARDS.

The following table contains a list of the vessels now under contract at lake shipyards. It will probably be augmented during the winter by additional contracts, some of which are expected to be awarded soon. The total value of the tonnage given below is about $7,500,000. This table will reappear from time to time during the winter. The dimensions in all cases could not be given complete this week. We will appreciate the courtesy if readers noting any error therein will advise us.

BUILDERS.	RIG.	HULL DIMENSIONS. Length over all.	Length on Keel.	Beam.	Depth.	ENGINE DIMENSIONS. (Inches.)	ENGINE BUILDERS.	BOILER DIMENSIONS. No.	Diam. Feet.	Length. Feet.	Pressure.	BOILER BUILDERS.	Diam. Wheel.	OWNERS.	Estimated Capacity on 15 feet draft Net Tons.	REMARKS.
Alexander Anderson, Marine City	Schr.		225											Builders' account		
American Steel Barge Co., West Superior	St. s.	380		45	26	23, 38, 63 x 40	Cleveland Ship Building Co	3	12	13	175	Cleveland Ship Building Co.		Builders' account		
American Steel Barge Co	Barge	360		44	26									Builders' acconnt		
American Steel Barge Co	St. s.	404		48	27	24, 38, 64 x 42		3			160			J. D. Rockefeller		
American Steel Barge Co	Barge.	376		46	27									J. D. Rockefeller		
Bertram Engine Works, Toronto	St. p.	277	265	32	13-3	Cibola machinery.	Bertram Engine Works	2				Bertram Engine Works		Niagara Navigation Co., Toronto	Passengers	
Bertram Engine Works	St. p.		130	26			Bertram Engine Works					Bertram Engine Works		Upper Ottawa Improvement Co.	Tug	
Bertram Engine Works	St. p.		130	26			Bertram Engine Works					Bertram Engine Works		Upper Ottawa Improvement Co	Tug	
Burger & Burger, Manitowoc	St. s.	215	201	30	13-10		C. F. Elmes & Co., Chicago.	2	10	10-6	150	John Mohr & Son, Chicago		Goodrich Transportation Co	Passengers	Rebuild of steamship "Menominee"
Chicago Ship Building Co., Chicago	St s.	345	326	42	26-6	20, 33, 54 x 40	Cleveland Ship Building Co.	2	12-4	11-6	170	Cleveland Ship Building Co.		C. W. Elphicke et al, Chicago		
Chicago Ship Building Co	Schr.	365	352	44	26									Northwestern Trans. Co., Detroit		
Chicago Ship Building Co	Schr.	365	352	44	26									Minnesota Steamship Co		
Chicago Ship Building Co	Schr.	365	352	44	26									Minnesota Steamship Co		
Chicago Ship Building Co	St. s.		400	48	28	25, — — x 42		3				Cleveland Ship Building Co.		Minnesota Steamship Co		
Chicago Ship Building Co	Schr.		352	44	26									Minnesota Steamship Co		
Chicago Ship Building Co	Schr.		352	44	26									J. D. Rockefeller		
Chicago Ship Building Co	Schr.		352	44	26									J. D. Rockefeller		
Cleveland Ship Building Co., Cleveland	St. s.	413	395	45	28	23, 38, 63 x 40	Cleveland Ship Building Co.	2	14-8	13	170	Cleveland Ship Building Co.		Wilson Transportation Co., Cleveland	5,600	"Queen City."
Cleveland Ship Building Co	St. s.	420	4?0	48	28	23, 38, 63 x 40	" " " "	2				Babcock & Wilcox		Zenith Transportation Co., Duluth	5,600	
Cleveland Ship Building Co	St. s.	100	92	23	13	18, 40 x 30	" " " "	1			175	Babcock & Wilcox		D. & I. R. R. R., Two Harbors	Tug	
Cleveland Ship Building Co	St. s.		406	48	28	25, — — x 42	" " " "	3	13	13	175	Cleveland Ship Building Co.		J. D. Rockefeller		
James Davidson & Son, West Bay City	St s.		383	43	26	20 32, 54 x 42	Frontier Iron Works, Detroit							Builders' account		
James Davidson & Sons	St. s.		285	41	24	16 25, 42 x 34	Frontier Iron Works "							Builders' account		
James Davidson & Sons	Schr.		300	45	20									Builders account	3,500	
James Davidson & Sons	Schr.		300	45	20									Builders' account	3,500	
James Davidson & Sons	Schr.		300	45	20									Builders' account	3,500	
Detroit Dry-Dock Co., Detroit	St. p.	308	296	78	17-6	Com. Beam 80 x 80	Fletcher & Co, New York	6	12-6	12	175	Detroit Dry-Dock Co.	30-6	C. & B. Transit Co., Cleveland	Passengers	"City of Buffalo."
Detroit Dry-Dock Co	St. s.	420	400	46	28		Dry-Dock Engine Works					Detroit Dry-Dock Co.		E. M. Peck et al, Detroit		
Detroit Dry-Dock Co	St. s.	254	240	42	14	17, 27, 46 x 36	Dry-Dock Engine Works	1	12-6	12		Detroit Dry-Dock Co.		C. R. Jones et al, Cleveland	2,200	
Detroit Dry-Dock Co	St. s.		412				Dry-Dock Engine Works					Detroit Dry-Dock Co		J. D. Rockefeller		
Detroit Dry-Dock Co	St. s.		412	48	28		Dry-Dock Engine Works					Detroit Dry-Dock Co.		J. D. Rockefeller		
Globe Iron Works Co., Cleveland	St. s.	432	412	48	28	24. 39, 63 x 42	Globe Iron Works Co.	4	10	11	160	Globe Iron Works Co.		Mutual Transportation Co.		
Globe Iron Works Co	St s.	205-6	188	32	17	25, 37½, 56 x 30	Globe Iron Works Co.	4	11-6	10	160	Globe Iron Works Co.		U. S. Revenue Cutter Service	Tug	"John G. Carlisle".
Globe Iron Works Co.	St. s	432	412	48	28	25. 41, 66 x 42	Globe Iron Works Co.	4	11-2	11-2	175	Globe Iron Works Co		J. D. Rockefeller		
Globe Iron Works Co	St. s.	432	412	48	28	25. 41, 66 x 42	Globe Iron Works Co.	4	11-2	11-2	175	Globe Iron Works Co		J. D. Rockefeller		
E. M. Heath, Benton Harbor	St. s.	74		17	8-4	8 and 18 x 12	Montague, Mich. Iron Wks	1	14	9-6	150	C. F. Elmes, Chicago		Graham & Morton Trans. Co., Chicago	Tug	"City of Louisville" engines rebuilt.
Jenks Ship Building Co., Port Huron	St. s.													Builders' account		
Hausler & Dunham, Chicago	St. s.		95	20	11-6	18 and 26 x 30		1			250		5-6	Hausler & Dunham Co., Chicago	Yacht	
Simon Langell, St. Clair	Schr.													Builder's account		
Racine, Wis., Boat Manufacturing Co.	St. s.	142	130	18-3		13, 19-6, 20, 20 x 15			16	12	175	Warrington, Chicago		F. W. Morgan, Chicago		
Abram Smith & Sons, Algonac	Schr.		210	37	14				10	8				Comstock et al, Alpena		
Union Dry-Dock Co., Buffalo	St. s.	335	320	44	26	23, 39, 64 x 48		2						Builders' account		
Union Dry-Dock Co	St. s.	132		17-6	9	10, 19, 27 x 16		1				Taylor, Detroit		W. J. Connors, Buffalo	Tug	
F. W. Wheeler & Co., West Bay City	St. s.	384-6	366	44-6	26-7	22, 35½, 59 x 44	Wheeler & Co						13-4	Eddy Bros., Bay City		
F. W. Wheeler & Co	St. s.	490-9	380	48	28	23. 37½, 63 x 44	Wheeler & Co			12	170		13	G. W. Roby et al, Detroit		
F. W. Wheeler & Co	St. s.	375-6	366	45	26-6	23. 37½, 63 x 44	Wheeler & Co						13-6	D. C. Whitney et al, Detroit		
F. W. Wheeler & Co	St. s.	375-6	366	45	26-6	23, 37½, 63 x 44	Wheeler & Co	2	12-6				13-6	John Mitchell et al, Cleveland		
F. W. Wheeler & Co	St. s.	424	408	48	28		Wheeler & Co							J. D. Rockefeller		
F. W. Wheeler & Co	Schr.		354	44	28									J. D. Rockefeller		
F. W. Wheeler & Co.	Sc hr.		354	44	28									J. D. Rockefeller		
Marine Iron Works Co., Chicago	St. s.		50	10											Yacht	For service on Lake Chautauqua
Marine Iron Works Co	St. s.		50	10											Yacht	For service on Lake Chautauqna.
Murphy & Miller, Cleveland	Sloop.		60	14	8									Lewis Cowles, Cleveland	Yacht	

SHIP BUILDING AND REPAIRS.

ALL YARDS WILL BE BUSY.

The contracts foreshadowed last Thursday developed very soon to an extent which surprised the lake builders, who had each been working tooth and nail to get a contract for one or two ships that were to be built. Instead of all but one being disappointed, however, as is usually the case, each one received something to make him happy.

There have been awarded during the week, contracts for 14 new ships. The division is as follows: Chicago Ship Building Co., a steamer and three barges; Globe Iron Works Co., Cleveland, two steamers; Cleveland Ship Building Co., one steamer; F. W. Wheeler & Co., a steamer and two barges; American Steel Barge Co., a steamer and consort. The last order placed was with the Detroit Dry-dock Co., for two steamers which will again break the lake records in point of size, being 412 feet long on the keel, and about 435 feet over all. This order has been placed for a few days, but leaked out only through the Detroit Dry-dock Co. placing its order for material.

The Minnesota Steamship Co. placed an order with the Chicago Ship Building Co. for a steamship and consort. The other twelve were ordered by John D. Rockefeller, of New York, through the firm of Pickands, Mather & Co. The firm asked for figures from each of the companies on their own respective specifications, and the result will be a fleet of assorted sizes, the steamers ranging from 400 to 435 feet in length over all. The placing of so large an order puts an unprecedent amount of work into the shipyards. The value of the tonnage now under contract on the lakes will, when the vessels are completed, exceed $7,500,000.

The large orders to shipyards resulted, of course, in correspondingly large orders to the mills. The Illinois Steel Co. will furnish most of the material for the Chicago-built boats. The Globe Iron Works placed their order for plates of the best open hearth steel with the Otis Steel Co., which has already begun to deliver the material. Pencoyd, of Philadelphia, will furnish the shapes, Secretary Luther Allen, of the Globe Iron works Co., having gone thither this week to complete all arrangements for rapid delivery. The City Forge and Iron Co., of Cleveland, received the Globe's order for shafting, and immediately applied on that order a piece of material which was already in the fire. One of the boats to be built at the Globe yard is to be completed by the middle of May, and the second by July 15. The steamers will have engines similar to the new Mutual ship, and each will have four boilers.

The Cleveland Ship Building Co. has placed the order for the material for its new contract with the Carnegie Steel Co., Limited. The Wilson liner will be launched at this yard very shortly, and the keel of the Wolvin steamer will be laid in the berth thus vacated. She will be pushed through to the launching stage just as soon as the workman can get the riveting done, and then the keel of the Rockefeller steamer will be laid. The Cleveland's contract provides for delivery on October 1, the last boat of the fleet to come out.

The Cleveland Ship Building Co. has also the order for the triple-expansion engine and the boilers for the steamer just ordered by the Minnesota Co., from the Chicago Ship Building Co. The dimensions of this engine are not fully decided upon. It will be a duplicate of that placed in the Rockefeller boat, however, and will have a 25-inch high pressure cylinder by 42-inch stroke, the sizes of the intermediate and low pressure cylinders not being agreed upon yet. Each of the new steamers last referred to will have three boilers 13x13, with 175 pounds pressure, all to be built by the Cleveland Ship Building Co.

The two boats to be built at West Superior for Mr. Rockefeller. will probably be whalebacks. The contracts for the machinery for his steamer has not been announced by Capt. McDougall. There is an immense amount of detail work connected with these contracts which is still unsettled. The dimensions of the boats, so far as obtainable at present, are given in the construction table which appears elsewhere this week.

GENERAL REPAIR WORK.

The usual rush of work to be done before boats are laid up for the winter is on at the various dry-docks. The Masaba, Kearsarge, and Victory are at the Cleveland shipyard for side repairs. The Choctaw is still in the Ship Owners' dry-dock and will not get out before the close of the week. In the other basin of this dock the Maritana completed her repairs, her place on the blocks being taken by the Manola, which is still in dock. At the Cleveland dry-dock, the Corona, after completing repairs, was followed by the Andaste, Briton, Tyrone, and Republic. These were docked for the usual overhauling, that they may not be delayed in the spring by necessary repair work. The Republic also had her stern bearings lined up.

CHICAGO.—At the Chicago Ship Building Co.'s shipyard the barge Iron Queen is in dock for some general repairs and re-calking all over.

At Miller Bros.' shipyard the steamer J. Emory Owen is in dock. A survey is being held on her by Captains William Keith and J. A. Calbick. The repairs to be done on her will comprise considerable new bottom on the port side, about 60 feet of new keel forward, 100 feet of new keel aft, new garboards, stern post, rudder and wheel, new stanchions in hold, part new bulwarks, some new deck and general repairs and recalking from keel to covering-board. The steamer J. W. Carter is in dock for a new stem, repairs to stern bearing and some calking. The steamer Niko is having her ceiling recalked; the barge Geo. B. Owen is having her decks and ceiling and some outside recalking done, and will receive a new rudder; the steamer A. A. Parker had her decks recalked; the steamer George T. Burroughs received a new rudder.

J. B. Bates & Co., shipbuilders, are putting a new deck and stern on the steamer D. C. Whitney and recalking her all over; putting in new rail, covering-board, stanchions and quick work, and calking the top sides on the steamer New Orleans; part new deck and hatch coamings on the steamer Charles Hebard; and general repairs on the steamer C. H. Bradley and consorts Red Wing and San Diego.

DETROIT.—The steamers Fayette Brown and E. M. Peck, will, after all, be lengthened this winter. Work on the Brown will begin as soon as the Fryer is out of the Springwells dry-dock.

The Selwyn Eddy will receive extensive repairs here during the winter, having scraped badly during the season.

Work on the Northern Wave at the Detroit dry-dock is being pushed as much as possible, the force being increased from 175 to 200 men, who are working ten hours a day, with the assistance of electric lights. The survey was held by Capt. Dan. McLeod, representing the underwriters, and Mr. Frank E. Kirby, for the owners.

The schooner Lily May was recalled at the upper dry-dock last week.

WEST SUPERIOR.—Capt. McDougall's opinion is that the fact of the Centurion's bottom construction being cellular reduced the expense of repairs by almost half. It was at first thought the cost would be $35,000, whereas it will be less than $20,000.

The Standard Oil barge No. 75 will receive some repairs during the winter months, chiefly at the stern, where her sister ship, the No. 76, struck her at the Sault. Several of the Northern Line boats will have new steel between-decks put in by the American Steel Barge Co. this winter.

COLLINGWOOD, ONT.—The City of Owen Sound occupied the dry-dock last week. While on the dock she received some new planks, a part of keel, a forefoot and the greater portion of her stem was replaced. A new wheel was put on. Considerable calking was done. Now that the boat has left the dock, the deck, which was sprung by the wet grain, is being rebuilt. The repairs will cost $5,000 or $6,000. Capt. Anderson, who has been sailing the steamer, is in charge.

REPAIR NOTES.

The schooner Granada received some new planking and bottom calking at the Union Dry-Dock, Buffalo, this week, as a result of striking at Sailors' Encamp-, ment.

Capt. John Simpson, of the Owen Sound Dry-Dock has luck on all sides. He got the job of lengthening and rebuilding the steamer W. B. Hall, and then the town council remitted the taxes on the dock because of the work thus brought to that port.

Mr. Hugh Calderwood, of Scotland, who superintended the construction of the whaleback steamer City of Everett, on Puget Sound, has been appointed assistant superintendent of the American Steel Barge Co.'s yards at West Superior.

At Alex. Anderson's shipyard, Marine City, some repair work was done on the H. J. Johnson, which was danmged by ice.

The steamer Oscar T. Flint will be made a double decker this winter, at Langell's yard, St. Clair.

Capt. George Craig, of Toledo, has laid the keel for a flush deck racing yacht for himself.

During the coming winter two boilers are to be built for the tug J. C. Perrett, to take the place of the single boiler now in use. Steam stearing gears are also to be placed on the Perrett's car-carrying barges.

VESSEL TRANSFERS.

C. Endress & Sons, of Sault Ste. Marie, have sold their tug, R. R. Endress to R. P. Mason, Charles D. Mason, and George J. Slining, of Gladstone, where she will be used in harbor service. She is a fine tug, measuring 74 feet over all, by 16 feet beam, with engine 14 x 16 inches, and boiler, 10 x 5 feet, with 100 pounds working pressure. The purchase price is not stated.

The U. S. marshal tried to sell the libeled tug Kittie Haight (Br.), but refused to sell her for the highest bid, which was $800.

The U. S. marshal's sale of the steamer Yattaw to Max Morehouse, of Lorain, for $450, was set aside by the United States court, as entirely disproportionate to the value of the boat. The Yattaw was again put up Monday, in Cleveland, and knocked down to the Sandusky, Fish Co., for $1,675.

Capt. J. Ellison, of Port Stanley, Ont., has traded his little passenger and freight steamer Joe Milton (Br.) to James V. Crawford, of Wiarton, Ont., for the latter's tug V. A. Crawford, and other considerations. The Milton will be taken to Wiarton, cut down, and placed in the towing service.

FLOTSAM AND JETSAM.

The Nyack is again running on her old route between Milwaukee and Muskegon.

The S. F. Hodge has been chartered to run all winter between Milwaukee and Grand Haven.

The Lora will run between Milwaukee and Chicago this winter in the Hurson Line, with Capt. A. C. Ackerman in command.

Survey work has already begun on the proposed Erie Canal improvements. It is hoped to accomplish a great deal during the present winter.

The RECORD acknowledges the receipt through the courtesy of Senator James McMillan, of a copy of the report of General Craighill, Chief of Engineers.

The Pickands-Mather coal car dumping machine has been patented in England (No. 4,729.) It is officially known there as a "Tipping Machine for Wagons." The letters patent are granted to G. H. Hulett, Cleveland.

Mr. Frank Manton, of the American Ship Windlass Co., Providence, R. I. is making a trip to lake shipbuiding ports in the interest of his towing machines and windlasses

The usual annual dinner was given by President John J. Long, of the Great Northern Transit Co., to the officers and principal employes of the company on Monday evening of last week. This was the eighteenth occasion of the sort.

Tenders for widening and deepening the channel and harbor at Collingwood, Ont., will be received up to noon on January 2, 1896. The government's estimate of the cost of the work is not known, but the town gives $25,000 toward it.

The entrance to Detroit harbor, Lake Michigan, has become so shallow that the government will have to do some dredging at that point, or the usefulness of that haven except for craft of only the lightest draught will be a thing of the past.

Major W. B. Stockman, forecast official at the Cleveland station, Weather Bureau, received a request from officials of the Shenango ferry boat line, for daily weather predictions. With a view to saving time, Major Stockman took measures which will result in the forecasts being sent direct from Washington.

Collector of Customs William H. Herbert, of the Sandusky district, states that during the season of 1895 there were received at the port of Sandusky, 12,361 tons. The amount now on hand at Sandusky docks is 34,375 tons of ore. The amount of coal shipped was 308,249 tons. At Huron, the ore receipts were 146,442 tons, and coal shipments, 171,211 tons.

MARINE RECORD

ESTABLISHED 1878.

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WILLIAM L. McCORMICK, - - - - EDITOR.

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CLEVELAND, O., DECEMBER 12, 1895.

THE vessel interests of the lakes must be very active at Washington this winter if they expect much provision for rivers and harbors.

THE daily newspapers reported about ten days ago that "vessel brokers are proposing a new way to bring the New York Central to terms for delays to which boats are subjected to at Buffalo in unloading grain. It is planned to force the cargoes in at whatever elevators they will be taken, and libel them as soon as unloaded." This is misleading, as the owners have only been following out a plan of some years' standing, and which is worth two measures like that outlined above. The owner tenders his cargo to the elevator to which it is consigned. If it cannot be accommodated there within a reasonable time, he seeks elevator capacity elsewhere and if successful stores the cargo in the name of the vessel until the freight charges are paid, after which he endorses his warehouse receipt over to the consignee, who, of course, is compelled to pay for any additional handling to which the grain is subject by reason of this diversion. There is no libel, as none is necessary. No common carrier has to deliver his freight until the charges are paid.

AFTER some years of neglect, the life savers received needed consideration at the hands of the last Congress. The pay of surfmen was increased, much to the improvement of the service. The present Congress will now be asked to pass a bill, which will be introduced simultaneously in both houses, and which will provide that all the general officers, captains of stations, and surfmen, shall, upon request, be retired on half pay after twenty years consecutive service. It further provides that the widows of captains and surfmen who die in the service shall receive, so long as they remain widows, a pension equivalent to one-half the pay received by their husbands. Orphan children of captains and surfmen shall receive collectively a like amount until they are sixteen years old. Another clause of the bill provides for a chaplain for each district, or at least one chaplain for every forty stations. In view of the fact that crews are always convenient to the churches, and at most points are visited from time to time by the local clergy, the last provision seems rather superfluous. The movement to pension the men who habitually risk their lives in the service of the country is a movement towards equity with other branches of the country's service where pensions have already been awarded. The whole goes to show that the service is appreciated more and more thoroughly as it becomes better known to the people at large, notwithstanding the disposition shown in a few quarters to belittle its work

THE SCISSORS AND THE PASTE POT.

In a recent issue the Marine Review, of Cleveland, closes an editorial paragraph in which its own alleged merits are discussed with the statement that "the news is at all times at first hands, in every way reliable, and this is why we are enabled to print a great deal of valuable reading matter that can be secured only through an information bureau like the office of the Review. It is the kind of information that cannot be gathered with the scissors and paste-pot."

Now the policy of THE RECORD differs slightly from that declared above. THE RECORD is published primarily as a lake paper, although its merits have been recognized and extended by its patrons far beyond its original field of operations. It does not, however, claim to know all there is to be known on all subjects. THE RECORD has always proceeded on the theory that the navigation, direct commercial, and scientific interests of the lakes afforded a field broad enough for any trade paper to handle thoroughly. At the same time there are interests bearing on lake commerce which are so extended as to require journalistic representation by themselvee. These include papers representing the coal, grain and iron industries, that often contain matter which is carefully prepared, and which may reasonably be considered authorative. THE RECORD holds it consistent and proper to lay such matter before its readers with due credit given; and it certainly is much better than to print so-called original matter, which shows in itself, the folly of undertaking to cover too much ground.

One piece of "information" which certainly could not have emanated from any office but that of the Marine Review, was printed early in November, and was as follows:

The $2 ore rate and the 6 cent grain rate from the head of the lakes, which still prevail, have reduced ore shipments so that the total output will not be greatly above 9,000,000 gross tons.

This appeared on November 1, and referred to the season's shipments of ore. THE RECORD, of the same date, from information which was current at that time, combined with a little figuring, stated in connection with other freight matters that the amount of ore *already shipped up to November* 1 amounted to 9,200,000 or 9,300,000 gross tons, or considerably more than the Review's figures for the whole season. Now which was right? Figures given out later showed that the amount shipped, up to Nov. 1, was about 9,350,000 gross tons, not very far from the rough guess of THE RECORD, which, as noted above, does not pose as the highest authority on iron matters.

So much for the matter of policy. Now let us see how consistently this declared policy is lived up to. For the benefit of the lay reader it may be stated as the vital principle of newspaper work that facts—the principal component part of real news—are public property. Papers and contributions to one paper, together with original matter in that paper, entitle it to credit from any other paper afterwards making use of them or any verbatim portion of them. Often the setting forth of facts is so original and striking as to entitle the paper so setting them forth to due credit from the paper copying them.

On the same date on which the REVIEW printed its invective against the humble but useful scissors and paste pot, THE RECORD printed a very interesting latter from Mr. Walter Miller, lately chief engineer of the Globe Iron Works Co., who is at present on a tour through British shipyards and engine building plants. Mr. Miller's paper was contributed in accordance with an arrangement made with him by THE RECORD before his departure for England. For purposes of comparison we reprint the final portion of the letter:

While at Dundee I saw a remarkable set of twin screw engines; in fact Messrs. Gourley Bros. & Co., engineers and shipbuilders, of Dundee, have a number of specialties in the marine engineering line. The twin engines mentioned were being fitted on board a finely modeled hull that is expected to be very fast, and was built for parties in Calcutta. What was new and original, at least to me, was that the engines had no front column. The bed plates extend across the ship and were bolted together at the middle line of the keel. Three turned-columns are placed at proper intervals on the middle line of the bed plate. On top of these turned columns are placed strong girders of cast iron, bolting the cylinders of the port and starboard engines together. The back columns are of cast iron in the usual form, and have the guide bars bolted to them. The guide bars in this case are of hollow sections, and are engaged by the crosshead shoe, making the backing and go-ahead sides of the same surface. The engines are tied across, top and bottom, with the working gear, including the telegraph, in place on one of the middle columns, so that one engineer can handle both engines with ease. It is about as compact and handy a set of twin screw engines as I have ever seen, and I understand it makes a solid job that is free from vibration.

Quite an advance has been made in the water-tube boilers over here. Mr. Thornycroft is very enthusiastic over the subject, and says that he cannot talk of anything else. The Belleville boilers building by Maudsley Sons & Field have a number of improvements over those we made for the steamers North West and North Land. At a test I saw going on, they were burning 40 pounds of coal per square foot of grate surface without any trouble, and with very little smoke. Mr. Sampson, manager for Maudsley Sons & Field, told me he was quite prepared to guarantee an evaporation of nine pounds of water per pound of coal per hour.

One week later, on December 7, the Review printed the following, without credit of any description:

MR. MILLER'S OBSERVATIONS.

Mr. Walter Miller, who was up to a short time ago designing engineer with the Globe Iron Works Co., Cleveland, and who is now traveling in Europe, writes of a very cordial reception tendered him in most of the ship yards of England and Scotland. Mr. Miller designed the quadruple expansion engines of the Northern line passenger steamers North West and North Land and was, of course, called upon to carry out a large part of the work of fitting Belleville water-tube boilers to these ships. He says that the Belleville boilers being constructed in England by Messrs. Maudsley Sons & Field have a number of improvements over those made for the North West and North Land. At a test which he witnessed in England the boilers were burning 40 pounds of coal per square foot of grate surface without any trouble, and with very little smoke. Mr. Sampson, manager for the Maudsley Sons & Field, told him, he says, that he was quite prepared to guarantee an evaporation of nine pounds of water per pound of coal per hour.

"While at Dundee," says Mr. Miller, "I saw a remarkable set of twin-screw engines. In fact Messrs. Gourley Bros. & Co., engineers and ship builders of Dundee, have a number of specialties in the marine engineering line. The twin engines to which I refer were being fitted on board a finely modeled hull that is expected to be very fast, and was built for parties in Calcutta. What was new and original, at least to me, was that the engine had no front column. The bed plates extended across the ship and were bolted together at the middle line of the keel. Three turned columns are placed at proper intervals on the middle line of the bed plate. On top of these turned columns are placed strong girders of cast iron, bolting the cylinders of the port and starboard engines together. The back columns are of cast iron, in the usual form, and have the guide bars bolted to them. The guide bars in this case are of hollow sections, and are engaged by the cross-head shoe, making the backing and go-ahead sides of the same surface. The engines are tied across, top and bottom, with the working gear, including the telegraph, in place on one of the middle columns, so that one engineer can handle both engines with ease. It is about as compact and handy a set of twin-screw engines as I have ever seen, and I understand it makes a solid job that is free from vibration."

THE RECORD does not feel especially injured by this "Appropriation," as in addition to some thousands of others, about nine-tenths of the Review's subscribers had read the letter carefully in THE RECORD one week previous, and of course detected the fraud, one week later, when it re-appeared in shallow disguise. Attention is called to it especially to demonstrate that what people have to say by way of extolling their own virtues isn't always to be believed, even when it appears in print. It is clearly shown that the paper in question does use the scissors and paste-pot, which it so maligns, and that it is by no means the exclusive depot for original information which it purports to be.

We owe an apology to our readers for dwelling on this subject at length, but hope they will make allowances this time, as they have doubtless felt the temptation to puncture an inflated bag. At the same time we realize that newspaper controversy is a decided bore to the average reader, and it will not be carried further.

COMMENT OF CONTEMPORARIES.

The offer of the Cramps to build for the government battleships complete in every detail with armor, armament, and all things not usually done by shipbuilders, shows better than any other way the facilities of our best shipyards and their ability to fill any orders entrusted to them.—New York Maritime Register.

When the American merchant marine has reached a position in keeping with the wealth and importance of the nation there will be as little need of aiding it extensively as there is of aiding that of Great Britain to-day. But the American merchant marine must be assisted to "get there" first. Let us never forget that Great Britain's maritime power did not attain its present proportions without national help, and that if we wish to dispute the domination of the commerce of the world with her we must do as she did.—American Shipbuilder.

IN THE ENGINE ROOM.

INDUCED DRAUGHT ON THE WATER.

The introduction in one of the largest British naval steamships of induced draught—supplementing, that is, the natural draught by one artificially produced—is variously commented upon by marine engineers. In the instance referred to there will be employed rotary fans in the "uptake." a plan originating with Martin, the well-known marine engineer, who declares that the forced draught tends to concentrate the heat of a furnace at special points—advantageous in an iron foundry, it is believed, but not in a steam boiler. According to Martin, the only effect of such draught is under the body of fuel, and the gases generated are driven on without any controlling influence; whereas, with induced or exhaust draught, the initial effect is on top of the fuel, and the gases evolved are under the control of the draught until they are passed through the funnel. For such a plan, more complete combustion of the gases, the prevention of deposits of ashes in the tubes, and consequent longer life for the boiler is claimed.

PROTECTION FOR AMERICAN ENGINEERS.

Elsewhere in this issue will be found an amendment to the United States laws proposed in a pamphlet issued by the Marine Engineers Beneficial Association. Copies of the pamphlet will be sent to any address by national Secretary Thomas F. Dowd, South Jefferson street, Chicago.

VISIBLE SUPPLY OF GRAIN.

As compiled for THE MARINE RECORD by George F. Stone, Secretary Chicago Board of Trade, December 7, 1895.

CITIES WHERE STORED.	WHEAT. Bushels.	CORN Bushels.	OATS. Bushels.	RYE. Bushels.	BARLEY Bushels.
Albany	.....	10,000	132 000	.....	65 000
Baltimore	521 000	1.359 000	227.600	100,000	.....
Boston	870 000	250 000	12 000	.....	.....
Buffalo	2,700.000	330,000	33,000	430 000	2 431.000
" afloat	.....	.....	.....	.....	.....
Chicago	21 093 000	686 000	481 000	241 000	28 000
" afloat	.....	.....	.....	.....	.....
Cincinnati	41,000	3 000	31.000	37 000	95,000
Detroit	407 000	6 000	32 000	14,000	8,000
" afloat	.....	.....	.....	.....	.....
Duluth and Superior	5.169,000	.....	421 000	112 000	118,000
" " afloat	.....	.....	2.000	.....	.....
Indianapolis	109 000	93 000	.....	.....	.....
Kansas City	1 311 000	5 000	35,000	28 000	.....
Milwaukee	617 000	.....	11 000	167 000	50,000
" afloat	.....	.....	.....	.....	.....
Minneapolis	16 734 000	7 000	728,000	127 000	129,000
Montreal	246 000	10.000	52 000	3 000	10,000
New York	7.979 000	601 000	2 222.000	.....	51 000
" afloat	735 000	183,000	41,000	.....	357,000
Oswego	24 000	40 000	.....	.....	184.000
Peoria	87 000	31 000	283 000	1 000	.....
Philadelphia	522,000	336,000	156 000	.....	.....
St. Louis	1,321 000	15 000	617 000	16 000	11,000
" afloat	.....	16 000	.....	.....	.....
Toledo	1.084 000	116 000	234,000	112 000	.....
" afloat	38 000	.....	.....	.....	.....
Toronto	61,000	.....	40.000	.....	77 000
On Canal	240 000	8 000	61 000	62,000	18,000
On Lakes	2,093 000	1 102 000	160 000	.....	1,122 000
On Mississippi	.....	.....	.....	.....	.....
Grand Total	63.786 000	5 207,000	6 011 000	1,415 000	4,754,000
Corresponding date 1894	85,978,000	6 600 000	9.146 000	453,000	3 582.000

STEAMBOAT INSPECTION SERVICE.

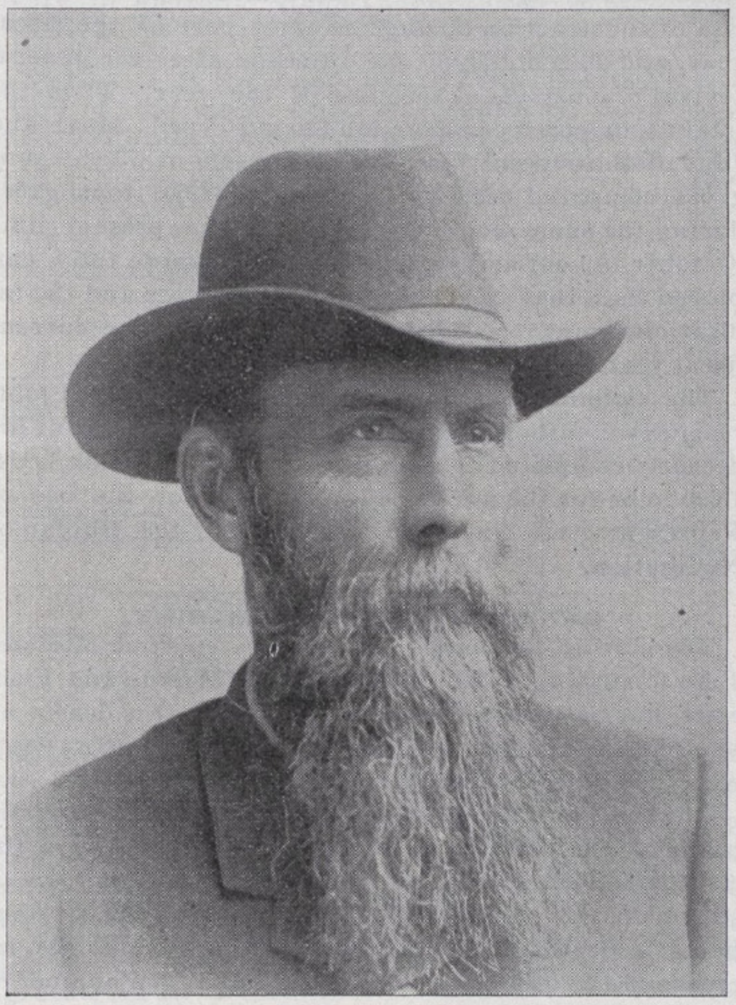
The Supervising Inspector General of Steam Vessels, in his annual report, again asks for legislation which will secure a non-partisan service, giving incumbents assurance that they will not be removed save for incompetency, misconduct, or permanent physical disability, and for these reasons only after due investigation. The standard of the service has been elevated in a marked degree, during the past year, by the institution of a system of written examinations for all applicants for positions as local or assistant inspector. This has greatly reduced the number of candidates whose applications are entitled to consideration. "It will be very difficult, however" continues Gen. Dumont, "to obtain persons of the highest qualifications such as are required by the character of the regulations, unless such persons can have some assurance of a reasonable tenure of office."

General Dumont also recommends the creation by statute of the office of the assistant supervising inspector general, to be filled by appointment by the President, with the approval of the Senate. The work of the office has increased over 160 per cent since 1876, making such an appointment an absolute necessity for the proper personal supervision necessary to carry out the objects for which the office was originally created. He also recommends that the laws be amended so as to give the Secretary of the Treasury power to divide local inspection districts into two or more sub-districts, with a board of local inspectors in each, when the work in any district requires the appointment of assistant inspectors, as being more economical than the appointment of assistant inspectors, besides benefiting the public in having a better supervision, by having two or more bases of operations instead of one and that one often at the extreme end of the geographic limits of the district.

The expenses of the service were for the fiscal year, for salaries $261,997.27; contingent expenses, $62,150.45. There were inspected during the year 7,931 domestic steam vessels, with a net tonnage of 1,931 domestic steam vessels, with a net tonnage of 1,639,036.39. The officers licensed number 39,177. The number of foreign passenger steamers inspected was 281; net tonnage, 557,262 23.

DIVISIONS.	Steamers.	Net Tonnage.	Officers Licensed.
Pacific coast	623	169,513.96	3,482
Atlantic coast	3,745	1 072,795.64	16.501
Western rivers	951	141.526.46	7,126
Northern lakes	2.287	705,654.51	9.023
Gulf coast	606	106,808,05	3,045
Total	8 212	2,196 298.62	39 177

Decrease in number foreign steamers inspected over previous year, 2; increase in number domestic steamers over previous year, 169. It is estimated that between 600,000,000 and 700,000,000 of passengers were carried during the fiscal year. Total number of accidents resulting in loss of life during the year ended June 30, 1895, 45; total number of lives lost by accidents from various causes during the fiscal year ended June 30, 1895, 394; increase increase in number of lives lost over previous year, 139. Of the number of lives lost as above reported, 148 were passengers and 246 were officers or persons employed on the steamers.



CAPT. LAWRENCE O. LAWSON.

A new steamer named Comanche arrived at Pier 29, East River, N. Y., December 1. She was built by the Messrs. Cramp & Sons., of Philadelphia, for the Clyde Line. Her hull is constructed of steel, with water-tight compartments, and she is as strong as skill and money can make her. She is 350 feet long, 46 feet beam and has four decks. She can berth 200 first-class passengers, besides a large number of second-class and steer age. She has quadruple-expansion engines of the latest pattern, which will make her very fast. She will make the run from New York to Charleston in about 40 hours, from Charleston to Jacksonville in about 10 hours, and from New York to Jacksonville (including half a day's stop at Charleston) in 60 hours, thus reducing the time 24 hours.

MARINE RECORD Life Savers' Series.

CAPT. LAWRENCE C. LAWSON.

(ILLUSTRATED.)

The crew of the Evanston Life-Saving Station is in charge of Capt. Lawrence C. Lawson, and consists of seven students of the Northwestern University. The station is located on the college campus, 12 miles north of Chicago. They have a record as fine as that of any crew on the lakes, and have rescued, during the 15 seasons of their work, nearly 300 persons. The most notable feat recorded on the log of their station was performed on the morning of November 28, 1889, when they saved 18 persons from certain death in the wreck of the steamer Calumet, which was totally lost near Fort Sheridan, on that day. For this Capt. Lawson and each member of his crew were formally presented, the following year, with gold medals awarded by the Secretary of the Treasury in recognition of their great bravery on that occasion. The members of the crew receiving medals were, William M. Ewing, Frank M. Kindig, Edson B. Fowler, William L. Wilson, George E. Crosby, Jacob Loining. Their work on the occasion of that wreck is possibly best described in a letter addressed to each by the Secretary of the Treasury, who wrote as follows:

"The stranded vessel lay on the outer bar, half a mile from shore, 15 miles from the Evanston station, and swept by every sea. The Evanston crew were summoned to the scene by telegraph a little past midnight, in the midst of one of the most severe storms of recent years, a terrific northwest wind blowing, every gust laden with blinding sleet and rain, and the thermometer registering only 10° above zero. Transported by rail, the crew reached Highland Park at 4 a. m., after serious delays for which they were in no way responsible, and the bluff opposite the wreck an hour later. The remainder of the crew arrived at the spot at daylight, after a toilsome journey through the storm, over a route rugged with ravines, precipitous hills, and thick woods, hauling the apparatus with them.

"Two attempts to reach the vessel with a shot line having failed, the crew, with the assistance of citizens and soldiers from Fort Sheridan, dragged the boat down a ravine 50 or 60 feet deep, cutting a passage through a dense growth of wood and underbrush to a place 20 feet above the water, whence they lowered it by ropes and effected a launch in defiance of every peril, although the chances of success were desperate, and the spectators deemed the undertaking little less than fool hardy. Wading into the icy water, waist deep, impeded by the current and buffeted by the stinging backlash, they finally, after many ineffectual attempts, succeeded in reaching the helpless and almost hopeless sufferers. Three times was this laborious and hazardous operation performed, each trip resulting in the rescue of six persons."

Captain Lawson, the worthy commander of this brave crew, was born in Sweden, Conn., in 1842. He began life as a sailor, going to New York at the age of 19. He went into the coasting trade, carrying provisions to the army of the Potomac, and returning with oysters to Fair Haven, Conn. Three years later he came to the lakes, and after sailing for three seasons went into the fishing business in 1867 at what is now Jackson Park, Chicago. When this became a park Capt. Lawson went to Evanston. This was in 1869, and he continued to fish from that port until 1880. In this year the life-saving crew was formed by their students, and he was placed at their head. The college is as proud of its crew as most universities are of their football teams, and which is of the most use to humanity it is not hard to determine. The Northwestern, however, has its football team, which won a fine victory over the Madison students on the day their fellows received their gold medals.

The Evanston crew seized another opportunity to distinguish themselves on November 25, when they rescued the crews of the J. Emory Owen, Michigan and Nicholson, which went ashore a few miles from their station in a storm which was almost a counterpart of that raging at the time the Calumet was lost. The crews were not in the same imminent danger, as subsequent events have shown; but the risk to the crew was fully as great, and they deserve the same meed of credit. The rescued crews numbered 36 persons, one of them an eight-months' old baby girl.

COMMISSIONER CHAMBERLAIN'S REPORT.

THE RECORD is just in receipt of the annual report of the Commissioner of Navigation for the year ending June 30, 1895. It is noticed that the summary sent out by telegraph did not adhere as closely to the spirit of the full text as might have been desired. Mr. Chamberlain says, in part:

Our navigation laws abound in restrictions which serve no useful purpose whatever. They subject our shipowners, shipbuilders, navigators, and seamen to restraints, conditions and penalties such as no other maritime nation imposes upon its merchant marine. Their certain operation, under present conditions of international trade, is to make our merchant marine as small as possible, instead of as powerful as possible, and unquestionably they have had the effect of compelling American capital, willing to invest in maritime enterprises to resort to the protection of foreign flags and foreign laws, framed in a more liberal spirit than our own. They have contributed toward the almost total extinction, within a third of a century, of the race of American seamen. The laws in point are not recent acts. As original propositions they would find few advocates to-day. It is believed that the only reason for heir continued existence is the fact that the law-making power and the people have been engaged in the solution of larger questions of our internal development, and have not had the opportunity and inclination to investigate their present operation.

I have the honor to respectfully renew the recommendation made last year in favor of the repeal of that restriction of law which denies the use of the American flag, the privilege of American registry, and the protection of the United States vessels owned by American citizens and navigated in the foreign grade, unless built in the United States. The effect of this law, under existing industrial conditions, is not only to encourage, but virtually to compel American capital, willing to embark in transatlantic navigation, to organize under the laws of other nations and resort to alien flags, thus enhancing the importance of foreign nations at the expense of our own.

The registry law never has determined and never can determine the market for which vessels designed for international trade are bought. In that respect it differs radically from a tariff law, and only confusion of thought and action can rebuilt from the belief that their operation are similar. The law restricting our coasting trade is undoubtedly a measure for the encouragement of domestic shipbuilding, which produces large and practical benefits to that industry. It is entirely different from the law for the registry of vessels in foreign trade, and should not be confused with it. The recommendation made last year, and here renewed, in no manner affects coasting navigation and the interest which supplies it with vessels.

STATE TAXATION OF SHIPPING.

Action by the legislatures of Maine, Michigan, Minnesota and Wisconsin, and agitation in the legislatures of California and Massachusetts during the current year warrant the hope that seaboard and lake states are awakening to the economic mistake and injustice of heavy taxation of shipping as property. It is a mistake for states in their relation to the union to impose such taxes, for they place American vessels at a disadvantage in competition with our sagacious foreign rivals. It is a mistake for states in their relation to each other, for such taxes defeat their own ostensible ends by driving shipping from an exacting home port to a port in another state more liberal and far-sighted in its tax policy. These taxes are unfair, for, from the nature of the vessel, it can enjoy to only a slight extent the benefits of those public undertakings to which, in the main, the proceeds of state and local taxes are devoted.

The most liberal law of the year was enacted by the legislature of Minnesota, providing for an annual tax of three cents per ton net, on all vessels of the state navigating international waters, in lieu of all other state and local taxes. This brings Minnesota abreast of New York, Alabama, Delaware and Pennsylvania, which exempt American vessels in the foreign trade from all state and local taxes; abreast of Massachusetts and Connecticut, which tax only the incomes of American vessels engaged in the foreign trade; and in advance of Great Britain and Germany, which tax only the income of shipping, but at a rate which produces a tax higher than that imposed by the new Minnesota law. Under the former law of that state, shipping at Duluth last year, 2,735 tons, paid $3,763 in state and local taxes, or fully $1.50 per ton. Large transfers of vessel property to Duluth are now under way.

VESSEL CONSTRUCTION.

On June 30, 1895, the merchant marine of the United States, including all kinds of documented shipping, comprised 23,240 vessels, of 4,635,960 tons, as follows:

GEOG. DISTRIBUTION.	1894.		1895.	
	No.	Gross Tons.	No.	Gross Tons.
Atlantic and Gulf Coast	17,468	2.712,944	17 136	2.679 779
Pacific Coast	1,520	456,359	1,525	433,502
Northern Lakes	3,341	1,227,401	3,342	1,241,459
Western Rivers	1,257	287,325	1,237	281,220
Total	23,586	4,684,029	23,240	4,635,960

During the year ended June 30, 1895, there were constructed 694 vessels, with a total tonnage of 111,692, as follows:

GEOG. DISTRIBUTION.	1894.		1895	
	No.	Gross Tons.	No.	Gross Tons.
Atlantic and Gnlf Coast	592	74,708	453	59.983
Pacific Coast	58	5,392	74	7,144
Northern Lakes	106	41,484	93	36,353
Western Rivers	82	9 111	74	8,122
Total	838	131,195	694	111.692

It will be noticed that there was a decrease in construction of 144 vessels, and of 19,593 tons. This decrease was brought about by the almost complete cessation of construction during the early part of the fiscal year, and does not show the situation after the general revival of business at the close of the year. Thus the total documented construction during April, May, and June of the current year was 247 vessels of 72,633 tons gross, compared with 304 vessels of 48,503 tons gross during the same months of 1894. At the present time (October 16,) our shipyards are as a rule more fully employed than they been for two years or more and the indications point to a large construction for the current fiscal year.

The Commissioner asks Congress to pass a joint resolution authorizing him to print 5,000 copies of his recently completed compilation of the navigation laws, 1,000 to be for the use of Senators, 2,000 for the use of Representatives, and 2,000 for the use of the Bureau of Navigation.

CANADA'S MERCHANT MARINE.

The marine portion of the annual report of Minister John Costigan, of the department of Marine and Fisheries, has been received by the RECORD, It is drawn up by Deputy Minister William Smith. The report deals with the calendar year 1894.

The total number of vessels remaining on the register books of the Dominion, on December 31, 1894, says the report, including old and new vessels, sailing vessels, steamers, and barges, was 7,245 measuring 869,624 tons, being a decrease of 42,915 tons from 1893, but an increase in the number of vessels of 132. The number of steamers was 1,640, with an aggregate gross tonnage of 240,906 tons. Assuming the average value to be $30 per ton, the value of the registered tonnage of Canada on Dec. 31, 1894, was $26,088,720. The number of vessels registered in the province of Ontario, which includes the Great Lakes, was 1,480, with a total tonnage of 148,525; of this number 830 were steam craft with a tonnage of 99,092.

The number of new vessels built and registered in Canada in 1894 was 326, measuring 21,243 tons. An estimate of $45 for the new tonnage gives the total valuation of new tonnage as $955,925. Of these 326 vessels, 64, with a total tonnage of 3,137, were built at Ontario ports, the valuation being $141,165.

In the appendix appears the annual report of Mr. W. J. Stewart, of the steamer Bayfield, to Mr. Wm. P. Anderson, the chief engineer. The survey of the bay was practically completed during the summer of 1894, after eleven seasons' work. The total cost of this survey has been $215,389.21, but against this amount should be credited a proportion of the cost of the steamer Bayfield, and of all the surveying instruments and other supplies in possession of the department which are available for surveys on other lakes. With the possible exception of Lake Superior, Mr. Stewart says, the surveys of none of the other lakes will cost anything like that amount of money.

Accompanying the report is a supplement containing the reports of the chairman of the Board of Steamboat Inspection, and of the harbor commissioners, pilotage authorities, harbor and shipping masters, port wardens, etc. It includes a list of the steam tonnage of Canada.

The harbor master of Toronto reports that the number of arrivals at that port was 2,618, or 41 in excess of 1893 Eighty vessels remained in ordinary there last winter. The amount of coal received by lake was 137,597 tons, or 11,312 tons more than in 1893.

A SAD CASUALTY.

The heaviest loss of life of the season proper, and of the whole year, with the exception of the loss of the Chicora, occurred last Saturday morning when the tug Pearl B. Campbell went down with her entire crew of seven men near Huron Island, Lake Superior. The Campbell is the property of Capt. B. B. Inman, of Duluth, and with her consorts, the tugs Corona and Castle, had just abandoned the wrecks of the Moonlight and Henry A. Kent, ashore at Chocolay Beach. They encountered very rough weather and blinding snow on the way up the lake, and had great trouble with ice. The Campbell whistled distress signals, but the other tugs did not dare get in the trough of the sea to go to her assistance. The whistling did not continue very long, and when the weather cleared up the Campbell was nowhere to be seen. It is thought the Campbell must have sprung so much of a leak that she could not pump the water out fast enough, and that the fires were soon put out. The missing men are seven in number—Capt. William McGilvray, master, Duluth; John Lloyd, mate, Duluth; George McCort, first engineer, Cheboygan, Mich.; Fred. England, second engineer, Duluth; cook and two firemen, names unknown. The Campbell was valued at $5,000 and not insured.

WINTER MOORINGS.

Reports of vessels laid up for the winter, in addition to those already published, are as follows:

STEAMERS:

Alcona ..... Cleveland
Arabia ..... Buffalo
Alberta (Br.) Owen Sound
Athabasca (Br.) " "
Cambria ..... Cleveland
Cherokee ..... Marine City
China ..... Buffalo
Choctaw ..... Cleveland
City of Alpena ..... Detroit
City of Cleveland .. Detroit
City of Mackinac .... Detroit
City of Detroit ..... Detroit
City of Duluth ..... Duluth
City of Owen Sound ..... Owen Sound
City of Traverse .. Chicago
City of the Straits . Detroit
Colorado ..... Winter route
Corona ..... Cleveland
Corsica ..... Cleveland
Douglas ..... Toledo
Dove ..... Toledo
Eddy, Selwyn ..... Detroit
Elfin-Mere ..... Milwaukee
Fish, James J. ..... Buffalo
Garden City ..... Alpena
German ..... Cleveland
Glidden, J. N. ... Ashtabula
Globe ..... Cleveland
Gould, Jay ..... Chicago
Hall W. B. (Br.) .. Owen S'd
Hodge S. F. . Winter route
Hudson ..... Buffalo
India ..... Buffalo
Inter-Ocean .... Ashtabula
Juniata ..... Buffalo
Kearsarge ..... Cleveland
Kirby Frank E. ... Detroit
Langell S. ..... Port Huron
Leland ..... Buffalo
Majestic (Br.) Collingwood
Manitoba (Br.) .. Owen S'd
Maritana ..... Cleveland
Miami ..... Marine City
Mohegan ..... Marine City
Monarch (Br.) ..... Sarnia
Nebraska ..... Buffalo
North Land .. W. Superior
North West .... W. Superior
North Wind ... W Superior
Northern Light .. W. Sup'r
Northern Queen . W. Sup'r
Northern Wave .... Detroit
Nyack ..... Winter route
Pacific (Br.) .. Collingwood
Pawnee ..... Buffalo
Peerless ..... Chicago
Petrel, D.G.S. Owen Sound
Porter Lloyd .. Port Huron
Presley George Milwaukee
Progress ..... Detroit
Republic ..... Cleveland
Rust D. W. ..... Toledo
Saxon ..... Cleveland
State of Michigan, Detroit
State of New York ..... Cleveland
State of Ohio ... Cleveland
Stephenson I.W. Marinette
Tempest No.1, Marine City
United Lumbermen (Br.) ..... Owen Sound
Wallula ..... Cleveland
Wes on A. ..... Buffalo

CONSORTS AND SAIL.

Advance ..... Marinette
Alert ..... Marinette
Arenac ..... Port Huron
Cascade ..... Alpena
Coyne Emma L. ..... Marine City
Eleanor ..... Buffalo
Fulton ..... Buffalo
Ganges ..... Buffalo
Gardner F. B. ..... Buffalo
Hinchman Kate ..... Sturgeon Bay
Lily E ..... Sheboygan
Manitou ..... Marquette
Morden Dolly (Br.) ..... Owen Sound
Nelson S. (Br) Owen Sound
Norris Alice B. Tonawanda
Pelton J. R. .... Cleveland
Raesser Lydia E. ..... Sheboygan
Rogers A. J. ..... Buffalo
S. O. No. 75. . W. Superior
Stevens J. H. .. Sheboygan
Sturges George .... Alpena
Taylor ..... Buffalo
Typo ..... Buffalo
Uranus ..... Marine City
Weaver Jennie, Sheboygan
Wenona ..... Buffalo
Winslow Richard ..... Ashtabula
115 ..... Buffalo
116 ..... Buffalo

CHICAGO.

Special Correspondence to The Marine Record.

The schooner I. M. Forest has been purchased by Mr. Cesar, of this port, who was formerly owner of the schooner Otter. The Forest arrived here from Milwaukee Monday and will go into winter quarters here.

Twelve steamers and six schooners arrived at this port on Monday December 9th, quite a large number, considering the lateness of the season.

The steamer Sitka left here Monday afternoon with flaxseed for Buffalo.

The schooner Gladstone, light, arrived from Milwaukee Monday and went up the River Tuesday morning to load grain from Buffalo.

The steamer City of London arrived from Buffalo with coal Tuesday at noon.

Captains Thomas Wilson, John Mitchell, W. S. Mack and A. H. Hawgood, of Cleveland, and J. F. Eddy, Newell Eddy and Selwyn Eddy, of Bay City, visited Chicago this week.

The schooners York State, Capt. Julius Baker, and Capt. G. W. Naughtin, Capt John Kemming, arrived here Monday with lumber from Manistee. They are the last of the lumber carrying schooner fleet to arrive here this season.

The steamer Adella Shores, Capt. J. J. Carr, and consort Middlesex, Capt. Paul Weiman, arrived Monday with lumber from Ashland. They encountered lots of ice since they left Ashland about three weeks ago.

The schooner Michigan, which went ashore off Glencoe last month was released on the 4th inst. by the wrecking steamer Favorite, after nearly one-third of her cargo of hard coal had been thrown overboard. The Favorite and the tug Charnley towed her into port and the Charnley and W. H. Wolf towed her up the river to O. S. Richardson's coal yard dock at South Halsted street bridge. The Michigan will go to Miller Bros.' shipyard to be docked for repairs as soon as she is unloaded.

The barge Nicholson, ashore off Glencoe, has been abandoned.

The steamer M. C. Neff, Capt. Edward Evans, made 51 round trips between Chicago and Menominee during the season just closed. This is a record-breaker.

The steamer H. Luella Worthington, Capt. J. Travis, with consorts Jones, Bronson and Martin, with lumber from Cedar River arrived on the thirty-third round trip of the season on the 5th inst. The good folks of Cedar River will miss the genial officers of the fleet, as at their weekly society parties all vied with each other to give their guests a most enjoyable time. The Worthington and consorts will winter here.

WILLIAMS.

BUFFALO.

Special Correspondence to The Marine Record:

Buffalo yachtsmen are suffering a good deal from the depredations of river pirates. Last Friday night a heavy anchor and pump, and all the gear of W. C. Cowles' half-rater Kathleen were stolen.

Buffalo's lake coal shipments for November were 533,708 tons, as compared with 443,050 tons twelve months previous; fer the season to December 1, 2,496,033 tons, as compared with 2,386,405 tons in 1894, and 2,626,037 tons in 1893. The shipments for the first week of December were 107,165 tons, and for Sunday and Monday 31,300 tons. About 10,000 tons more is already chartered. This will bring the total shipments for the season up to about 2,575,000 tons.

Up to December 1 the distribution of coal was as follows: Chicago, 860,956 tons; Milwaukee, 579,239; Duluth, 196,475; Superior, 263,440; Manitowoc, 24,880; Saginaw, 24,973; Racine, 26,801; Green Bay, 31,885; Fort William, 14,055; Gladstone, 40,100; the rest scattering. About 128,880 tons was shipped from Tonawanda during the season to destinations not given.

Grain receipts will exceed last year's by about 15,000,000 bushels, and coal shipments will be about 110,000 tons in excess of 1894, but neither of the two are record breakers, 1893, 1892 and 1891 being far ahead in grain receipts, and 1892 and 1893 cannot be reached in coal shipments. Lumber receipts by lake, at the outset, promised to exceed last season's, but during the last five or six weeks the movement to this port was light, and the total receipts for the season will be many millions of feet less than in 1894. Iron ore receipts are 200,000 tons in excess of last year's. The eastward movement of flour will be 1,500,000 barrels behind that of 1894.

DULUTH AND SUPERIOR.

Special Correspondence to The Marine Record.

There is much excitement here over the order for ten vessels which has been placed by John D. Rockefeller with lake shipyards. This action is given different interpretations, but it seems to be merely in line with his large acquirements, old and new, on the Mesaba range. Less than ten days ago he purchased the east half of the northeast quarter of Section 17, T. 58, R. 17, which is said to contain 20,000,000 tons of rich Bessemer ore. The price is said to have been $1,125,000, and development will probably begin early in the spring.

Navigation is at an end at this port. The big North West and North Land have been moored for the winter at their regular passenger landing. The harbor is frozen over, the ice being from five to seven inches thick.

The proceeds of the Thanksgiving ball given by the Barge Works Social Club will be used to aid needy employes of the shipyard and to provide Christmas cheer for the children. The club will probably give other entertainments during the winter for the same purpose.

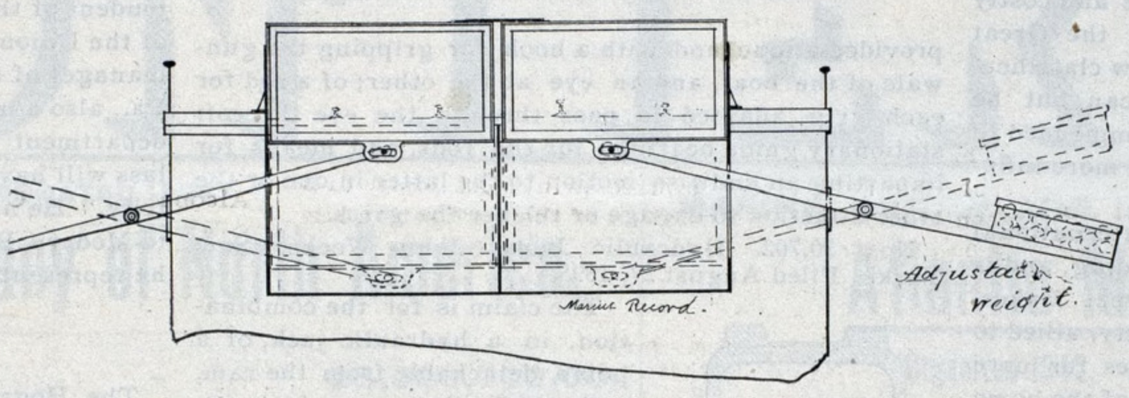
A number of leading contractors are figuring on the specifications submitted by the Duluth & Winnipeg, the South Shore, and the Canadian Pacific railroads for the construction of a large merchandise dock on Allouez Bay, adjoining the ore dock. The dock is designed to accommodate lumber, coal, and package freight. It is not known just when the contract will be awarded.

DETROIT.

Special Correspondence to The Marine Record.

The mail boat Florence had a hole cut in her by ice last week, and narrowly escaped sinking at her dock. The tug Arthur Jones was substituted.

General Manager D. C. Carter, of the Detroit & Cleveland Steam Navigation Co., gave his annual dinner on board the steamer City of Detroit, last Saturday evening, to the officers of the company and the heads of department. Among those present were General Passenger Agent A. A. Schantz, General Freight and District Passenger Agent D. C. McIntyre, Capt. Duncan McLachlan, Capt. Dugald McLachlan, Fletcher Sears, Myer Phillips, Thomas Marriott, Martin Sinclair, John McArthur, James Crockett, D. S. Carter, William Bullard, C. C. Schantz, E. H. Moreton, L. G. Lewis, B. C. Wilder, Harry Warren, Lewis Thorne, W. Shuter, G. A. Whitney, H. K. Leonard, M. W. Sales, R. G. Stoddard, Thomas Barlum, Richard Collins. Also Capt. Alex McKay, Malcolm McLachlan, James Menzies, William Hough, Mr. McCorkindale, and William Reynolds, of the City of Detroit; Archie McLachlan, George Clark, E. B. Matherson, and W. McIntyre, of the City of Cleveland; Capt. H. J. Slyfield, Salem Robinson, William McDonald, D. E. Cummings and Julius Herring, of the City of Mackinac; Capt. M. Lightbody, John McCullum, D. Phillips, John Sughrow and Alfred Welfare, of the City of Alpena; Capt. D. McLachlan and James Middleton, of the City of the Straits



THE THOMPSON SAFETY GATE.

Chief Steward Louis Thorne was responsible for the fine array of food upon the table. General Passenger Agent Schantz was toastmaster, but the speech making was entirely informal. Mr. Schantz presented to Mr. Carter, on behalf of the employes, a beautiful diamond stud, and Mr. McIntyre, of Cleveland, also speaking for the employes, presented a pair of candelabra for Mrs. Carter. The general manager made feeling responses in recognition of these tokens of esteem and affection. He congratulated all present that the steamers of this line had traveled over 130,000 miles during the season without a mishap of any description.

Capt. Alex McKay, of the steamer City of Detroit, was made the recipient, last week, of a handsome gold watch, the gift of the crew.

The army board appointed by Chief Engineer Craighill by the order of the Secretary of War to establish a harbor line extending from Ecorse to a point down the river, held its second and last meeting Monday. This board is composed of Lieut.-Col. Mansfield, Lient.-Col. Lydecker, Maj. M. B. Allen, Maj. H. M. Adams and Second Lieutenant Cavanaugh. Several persons interested were heard, and then Col. Mansfield announced that the report would be immediately made to the Secretary of War, and that on his decision, which would follow some time after, would rest the fixing of the time.

NOTICE TO MARINERS.

TWO HARBORS BREAKWATER LIGHT.

Notice is given by order of the Light-House Board that on or about December 14, 1895, a fixed white lantern light will be established on the outer end of the breakwater at the easterly side of the entrance to Two Harbors, westerly part of Lake Superion. The focal plane of the light will be 30 feet above mean lake level, and the lantern will be suspended from a brown iron post erected on the end of the breakwater.

GONE TO WINTER QUARTERS.

Notice is hereby given that the Eleven Foot Shoal light-vessel left her station on Dec. 8, 1895, and has gone to her winter quarters.

COMMANDER J. H. DAYTON, U. S. N.

A NEW SAFETY GATE.

(ILLUSTRATED.)

Mr. R. W. Thompson, of Cleveland, called at THE RECORD office this week with a drawing representing a new safety gate which he has devised for drawbridges. The gates consist of two plates, each half the width of a roadway to be barricaded, and moving upward and downward through a slot in the floor of the bridge. Each gate would be attached to the end of a lever at the other end of which would be a weight, arranged, with the fulcrum, to act as a little heavier than the gate, which, when released by throwing a button or some other arrangement holding it in place, would rise up of itself. The gate, by reason of the close balance preserved, could be easily pressed down into place again by hand or by some other simple arrangement after the draw had been closed. Mr. Thompson is the inventor of the first armor piercing projectile, also of the first breech-loading cannon. He recently obtained patents on an "ice-cutting and adhesion trolley wheel" for electric steel railways and other purposes. Mr. Thompson was promoted to a lieutenancy during the war, in recognition of his gun invention. He is now city bathing master for Cleveland,

CLEVELAND'S CENTENNIAL MARINE EXHIBIT.

Secretary Henry M. Elliott, of the Cleveland Centennial Commission, has prepared a statement of what will be shown in the marine exhibit at the exposition of 1896. Models and charts will show the basins, depths, coast lines, temperatures, and currents of the Great Lakes, with their animal life. There will also be exhibited, either in miniature or in charts, light-houses, light-ships, canals, sailing routes, and port entrances of the olden days. In contrast with this will be shown the apital and labor now employed in marine interests in Cleveland, the harbor improvements, and the pilot andtug systems of the port. Particular pains is being taken to ascertain and correctly set forth the number of sailors, officers, steamboat men and tug boat men employed in the city.

The growth of the shipbuilding interests in Cleveland from 1820 to 1896 will be shown to visitors in an interesting way and the history of the first boat built in Cleveland will be given. The evolution of lake shipbuilding will be shown by a series of interesting exhibits, one part of which will consist of models showing Cleveland-built ships of different periods. The tools, materials and sources of obtaining them will be fully explained. The industries of making sails, rigging and masts will have a place in this part of the exhibit. So will ship chandlery, including the manufacture and sale of articles used on and about boats.

Models and views of all kinds of lake craft will be shown, from the largest ship to the ordinary scow. There will also be a large exhibit of devices manufactured in Cleveland for handling cargo; also a line of ship's instruments, many of which will have been made in the city.

The fisheries exhibit will also be very fine. The government exhibit in this section will be very elaborate. On three tables will appear models of the pound nets of Lakes Erie and Michigan, the gill net of the lakes, showing a "gang" of forty nets, with the steamer drifting; the set-line or trawl; the haul seine fishery, the Fyke net fishery; the typical fish boat of the lakes, in both steam and sail. The products of the fisheries will be shown, as in life, dried, smoked, cured, salted, tinned, and as otherwise prepared for the table.

NEW CHARTS OF CANADIAN WATERS.

THE RECORD is in receipt this week of first copies of the issues of two new charts from the Hydrographic Office. One is a very complete and handsomely finished chart of Toronto harbor. The other is a partial chart of Georgian Bay, from Cabot Head to Boucher Point, which contains some of the results of the recently finished survey of Georgian Bay, which required eleven seasons to accomplish.

Mr. H. M. Hanna's steamyacht Comanche, is at South Brooklyn, N. Y., and will leave shortly for a cruise in the West Indies.

COMPULSORY CLASSIFICATION AND REGISTER.

To the Editor of The Marine Record:

In the history of merchant shipbuilding f r over sea's voyaging, the object in view and most desired by the owner and builder is, that the new vessel in contemplation shall be so built as to merit the confidence of the public in general and the underwriter in particular. To be stanch in her construction and of approved proportions that she may successfully battle with the wintery seas and gales wherever she may encounter them.

To verify this good intent, and accomplish this most praiseworthy object, the owner calls to his aid a representative of some well-known and reliable classification society who will compare the builders' plans and scantlings with the rules and tables of his society, and from time to time attend the building of the vessel, that he may grant a certificate of class in accordance with her structural worth, which he publishes to the world through the circulation of a register issued by the society he represents.

This is not only a business-like course for the owner to pursue, with a view to successful financial results, but a wise international maritime law makes it imparative that as a common carrier he shall have a character for his vessel through a disinterested and recognized classification society; and that details of her construction and dimensions of scantlings shall be recorded at the headquarters of the society as a check and proof of the surveyor's fidelity and judgment in the awarding of the certificate of classification.

That much depends upon the selection of the classification society and the circulation of its register the reader will take for granted. And while it is not well to deprecate the honest efforts of a beginner in any branch of industry, the reader who has even a limited knowledge of the subject will admit that it is a mistake on the part of the owner to class a large and costly steamer, such as those now building on the Great Lakes, in any view, as a comparatively new classification society, whose register circulation can but be limited as local only. Instead of such is commended to the owner and builder one of the older and more influential societies.

The Bureau Veritas, for instance, is an international classification society of some 70 years' standing, and is now permanently established upon the Great Lakes, with headquarters at Chicago. This society, allied to the maritime interests of the United States for more than half a century, has the full confidence of the home as well as the foreign underwriter.

The marked indifference of the lake vessel owner to this system of expert discrimination in the classification of their vessels is unprecedented and is no doubt in part due to the fact that they have not in the past been subject to ocean laws, that compelled the owner to class his vessel and publish in the world the weak and doubtful ship as well as the strong and reliable one—a reliable guide for the traveler, the shipper and the underwriter.

It would appear, too, that the vessel owners of the Great Lakes were generous to a fault, inasmuch that they are willing that the weak and doubtful vessels should receive the same meed of praise, the same recompense for their services and the same confidence of the public and underwriter that is justly due the strong and reliable vessel. But as time has regulated the usages of the common carrier on the ocean for their general good, so will it sooner or later do this for the Great Lakes.

The foreign underwriter, who predominates in his line on the Great Lakes, though once indifferent, is now alive to the importance of these great inland seas and their ever increasing commerce, and the methods which have served him so well in ocean insurance and which time and experience have proven to be best, will in the near future assert their importance in the commerce of the Great Lakes.

D. H. F.

The Buffalo Forge Co., Buffalo, N. Y., have sent out a circular containing a description of a new steel plate bellows forge built by them to be used by bridge builders, ship riveters, boiler makers, structural iron workers, etc. The circular states that these forges yield a powerful, positive and continuous blast, produced by the improved double-acting bellows manufactured at their works, while the new Buffalo escape valve prevents all possibility of gas explosion. The drum or barrel-shaped body of the forge is made of heavy rolled steel, reinforced at top and bottom, and so constructed that it will endure the roughest kind of handling. The bellows are made of carefully selected oak-tanned leather. The total height to top of bowl is thirty inches and the diameter nineteen inches.

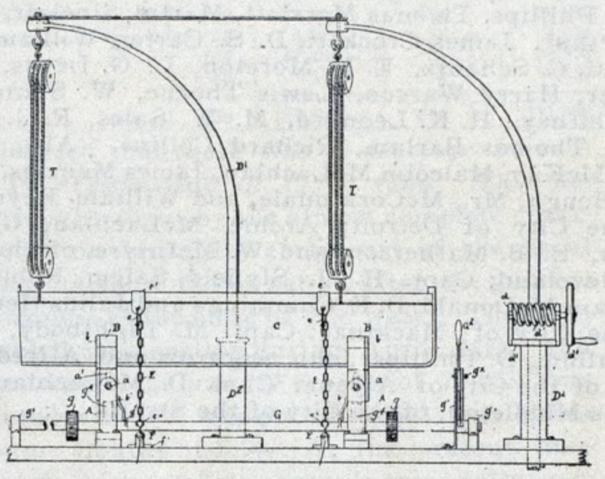
NEW INVENTIONS.

(ILLUSTRATED.)

Following is a list of patents that have been recently awarded on inventions bearing on navigation, marine trade and relative matters:

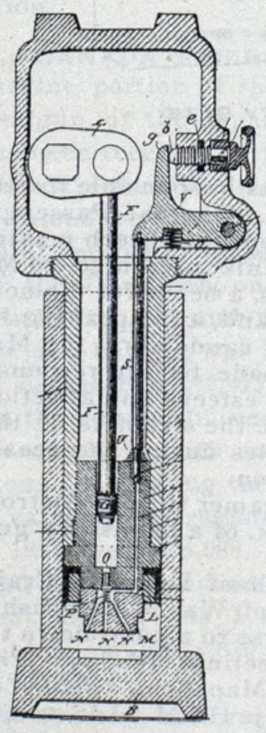
No. 550,700. Means for Securing and Releasing Boats on Board Ships. Carl J. F. DeVos, Rotterdam, Netherlands. Filed June 6, 1895.

The claim is for the combination, with a ship's boat, the davits, and suspension tackle, of fixed bearings, boat-supporting blocks journaled in said bearings, rocking lug supports adapted to impinge on the under side of and hold the block in a normal position, and means for rocking said supports to move the same, simultaneously, from under their blocks; also of grips



provided at one end with a hook for gripping the gunwale of the boat, and an eye at the other; of a rod for each grip, adapted to pass through the eye thereof; stationary guide bearings for the rods, and means for imparting an endwise motion to the latter in one or the other direction to engage or release the grips.

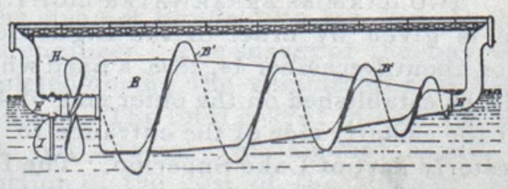
No. 550,702. Hydraulic Jack. John Weeks. New York. Filed August 27, 1895.



The claim is for the combination, in a hydraulic jack, of a pump detachable from the ram, and which discharges into the chamber below the ram, a back flow passage in the pump, separate and distinct from the bore thereof, a bonnet at the lower end of the pump having a water passage connected with said back flow passage, a valve actuated by a bell crank, and a screw plug actuated from the exterior of the jack, which operates this bell crank; also of a spring whose normal tendency is to unseat the valve.

No. 550,580. Ship. Julius Bluemel, San Francisco, Cal. Filed April 4, 1895.

The claim is as follows: In a ship, the watertight hull B, tapering longitudinally as shown, having an exterior flange B′ fastened to it, and an internal gear B″ fastened around its interior, pinion A and engine F suitably located in stationary position on platform or floor D, the stationary, hollow, central shaft E having



openings C and C′ as shown, bridge or railing J fastened and supported from ends C, and C′ on E, propeller H, fastened to hull B, rudder I and its operating mechanism I′.

A full description of these patents can be obtained by writing to the Patent Office at Washington, enclosing 14 cents for each, and mentioning THE MARINE RECORD.

LITERARY NOTICES.

Scribner's Magazine will shortly publish an illustrated article on Waterways from the Great Lakes to the Atlantic, by Thomas C. Clarke, the celebrated civil engineer.

The Christmas number of Harper's Weekly (dated December 14th) will contain 32 pages, including an ornamental cover. There will be articles and stories by William Dean Howells, Owen Wister, Richard Harding Davis, and John Kendrick Bangs, and illustrations by Howard Pyle, Frederic Remington, Peter Newell, and others.

Three sumptuous holiday numbers will be issued by the Buffalo Express, for the weeks of December 15, 22, and 29. The first will have a stunning cover in three colors. The second, besides colored cover and other Christmas attractions, will contain the prize-winning photographs in a camera contest. The New Year number will be large and fine, with many especial features.

The Central Magazine, after a short career as a quarterly, blossoms out in the December number as a full-fledged monthly. This magazine is published in Cleveland, and devotes a good deal of its space to the city and the Western Reserve. All its articles are of general interest, however, and its literary department has an unusually good tone. It is handsomely and profusely illustrated with timely pictures, and it is attractive in every respect. Its popular price, with the high quality of the contents, bespeak for the Central Magazine a big circulation before its first year shall have expired.

The publishers of Modern Progress will begin the year with three new departments, all of which are in excellent hands. Mr. L. D. Davis, (Davis-Farrar Co., engineers), a member of the Society of Naval Architects and Engineers, will be editor of the department of "Applied Power." Mr. H. R. Barnhurst, general superintendent of the Erie City Iron Works, late superintendent of the Union Iron Works, and for many years general manager of the Stearns Manufacturing Co., all of Erie, Pa., also a member A. S. M. E., becomes editor of the department "Applied Mechanics." Mr. Bert W. Douglass will have charge of the department "Applied Electrity." He has for some time been a valued contributor to Modern Progress, and is well known in the industry he represents.

TRADE NOTES.

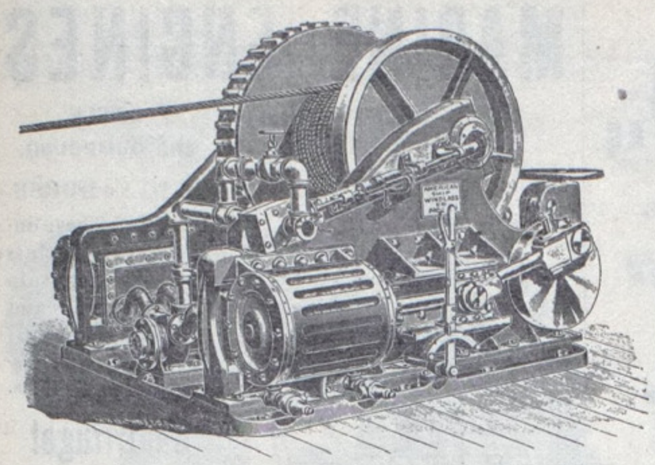
The Hogan Boiler Co., of Middletown, N. Y., has opened a New York office at 39 Cortlandt street.

The Morris Machine Works, Baldwinsville, N. Y., are sending out a new descriptive circular and price list of the centrifugal pumping machinery manufactured by them under the Heald & Sisco patents.

Dixon's silica graphite paint, manufactured by the Joseph Dixon Crucible Co., of Jersey City, N. J., will be used in painting all the tin work and skylights of the Post Office Department Building at Washington. A quantity will also be used on the Capitol, and the District Government Building.

The Cleveland Steel Co. will soon begin the erection of an addition. In making land on the lake shore for the addition the company has used steel shearings and stone as a foundation and breakwater. The sand washed by the waves is lodged in the shearings and forms a substantial base to build upon. The proposed building will be 42x300 feet, and of steel. It will provide additional facilities in the shipping department. Ultimately it is the plan to build a tunnel under the Lake Shore tracks, so that it will not be necessary to cross the tracks to reach the galvanizing department.

Some idea of the diversity of uses to which electric motors are now being put and the rapid spread of electricity in different directions may be gathered by glancing at the list of orders for motors received in the Power and Mining Department of the General Electric Co. during one month this summer: Operating mining machinery, shoe factory, operating a yarn factory, a tannery, a powder mill, a watch factory, iron working machinery. a foundry, hoists for electric cranes, ventilator on a gun boat, propelling electric launches, the operation of elevators, blowing church organs, operating woolen mills. These orders are scattered throughout the following states: California, Colorado, Indiana, Ohio, Connecticut, Michigan, Pennsylvania, Rhode Island, Wisconsin and New York, Lima in Peru, and Rio Janiero in Brazil.



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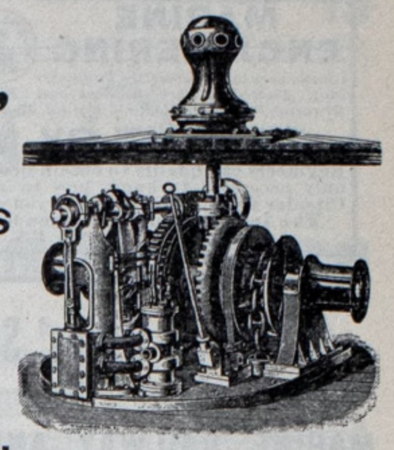

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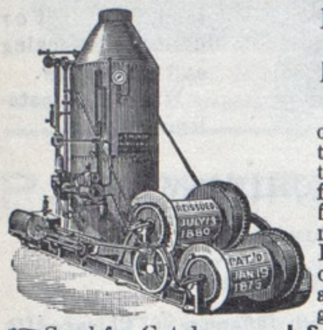

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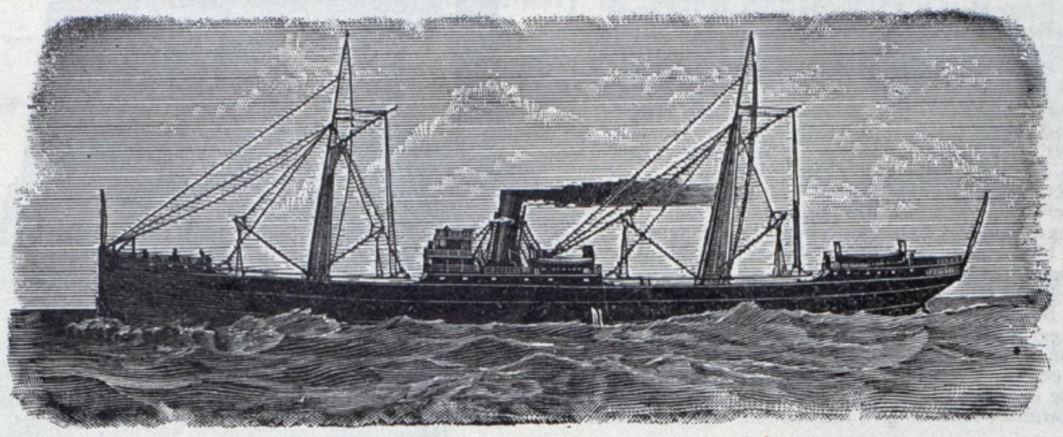

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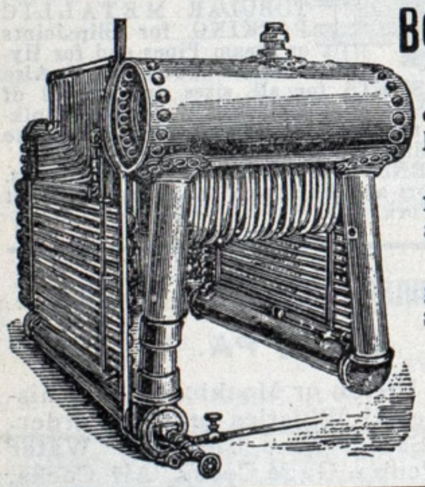

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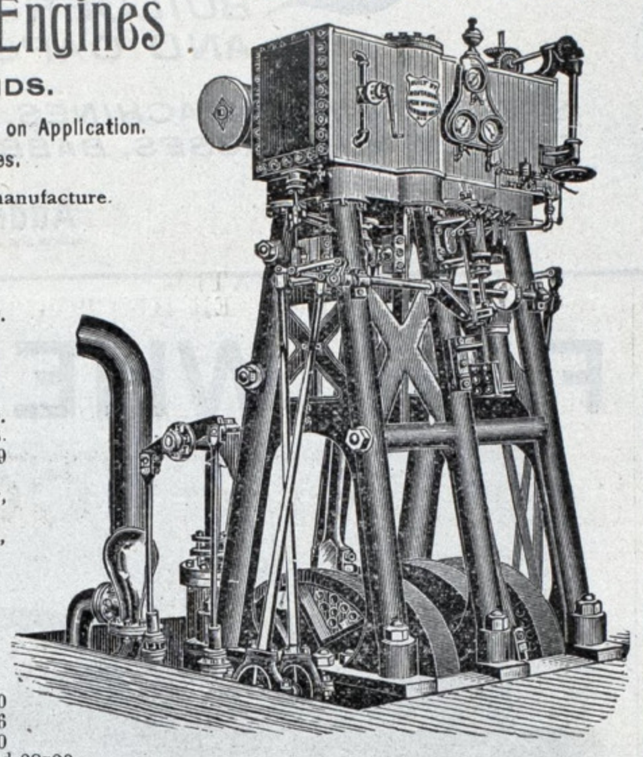

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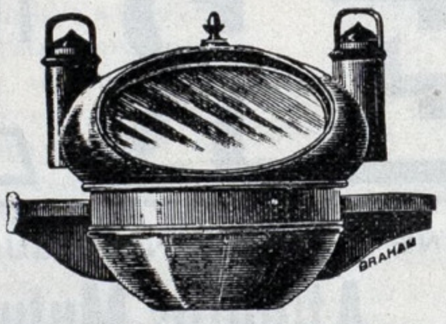

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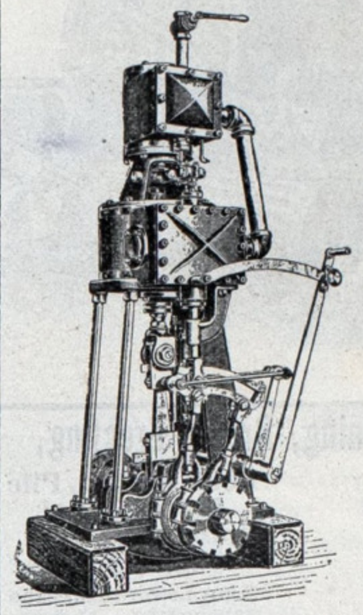

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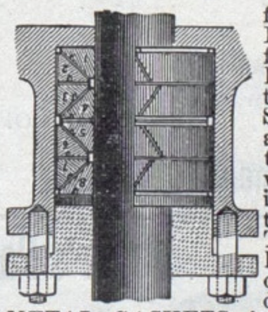

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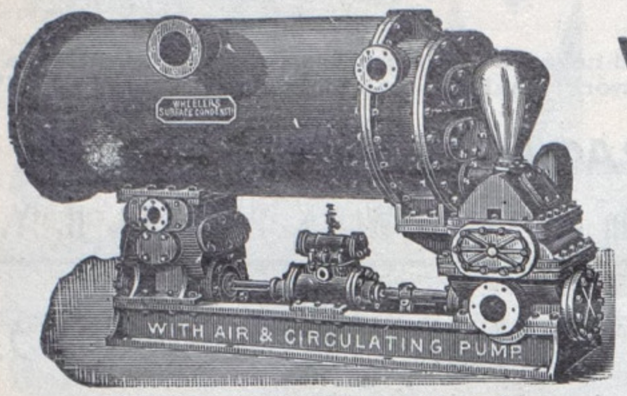

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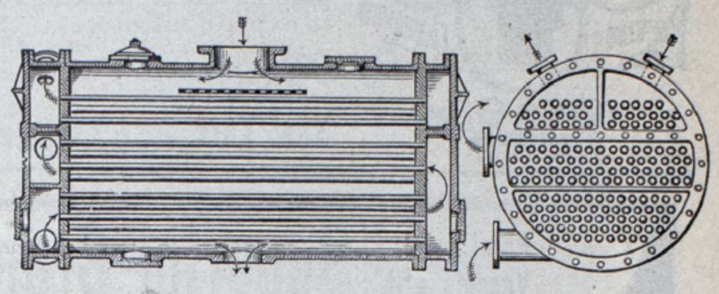

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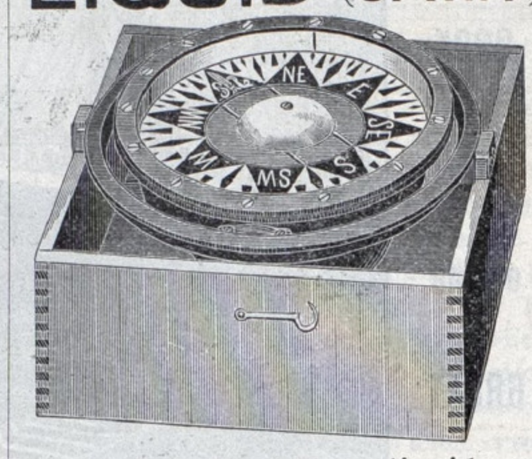

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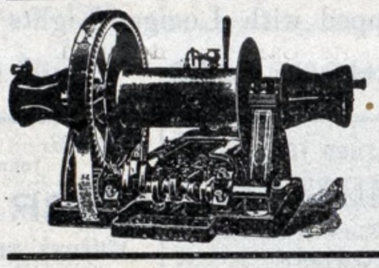

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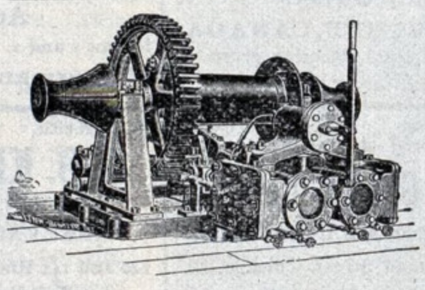

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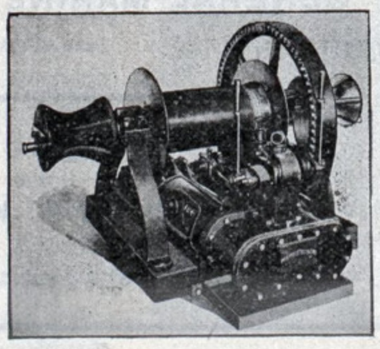

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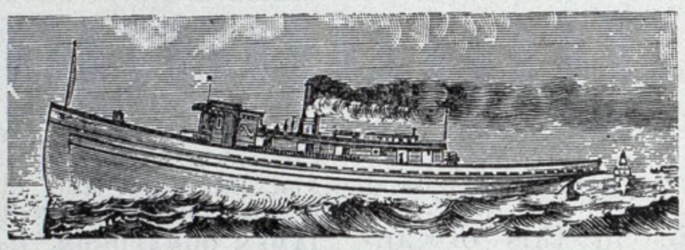

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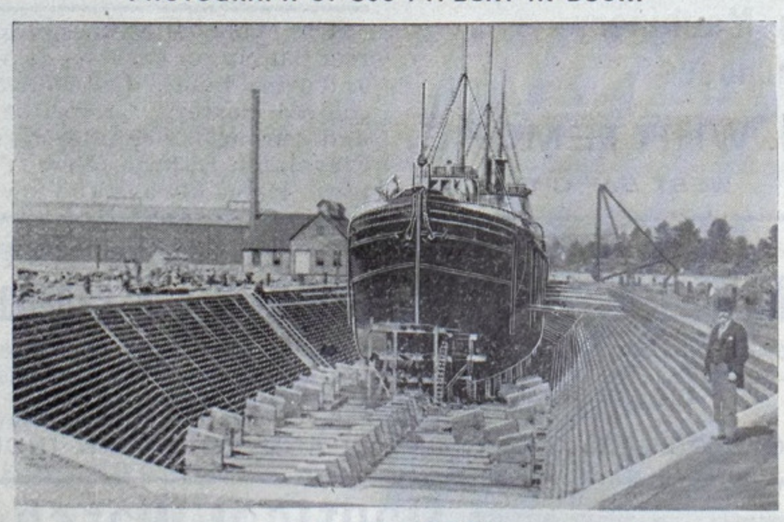

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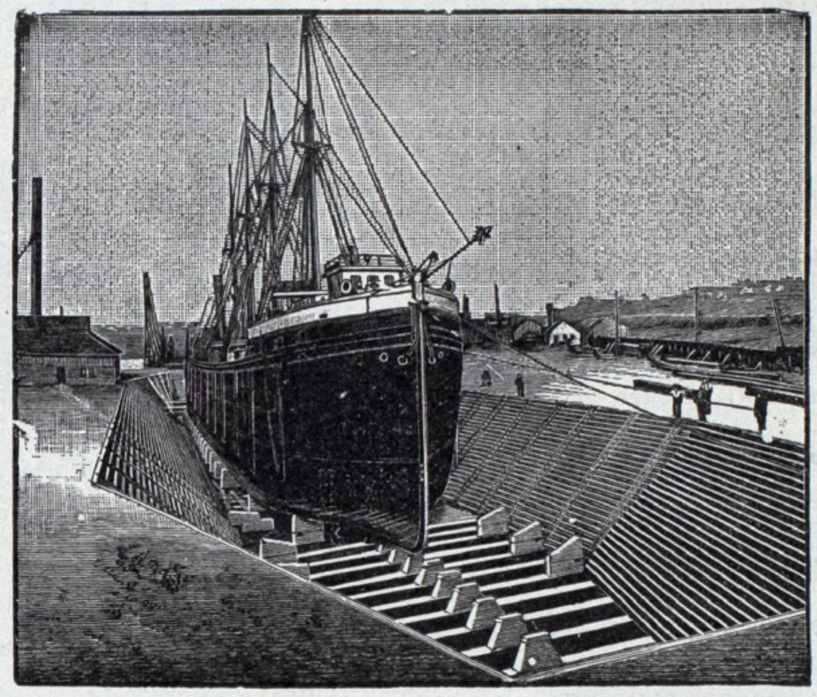

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